

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Bradley S. Templeton

SERIAL NO.: 09/416,278

FILING DATE: October 14, 1999

TITLE: Method and Apparatus for Intermediation of Meetings
and Calls

EXAMINER: Beth (Van Doren) Boswell

GROUP ART UNIT: 3623

ATTY. DKT. NO.: 5338.01 (SMC)

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BRIEF ON APPEAL

Sir:


This brief is submitted in an Appeal from the Final Office Action of
February 29, 2008 rejecting claims of the above-referenced patent application.

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(1) Real Party In Interest

The real party in interest in the above-referenced patent application is the Applicant Bradley S. Templeton of Sunnyvale, California.

(2) Related Appeals and Interferences

5 To the knowledge of the Applicants there are no related appeals or interference proceedings which will directly affect, or be directly affected by, or have a bearing on, the Board's decision in this Appeal. The Applicant notes that corresponding patent applications in Canada (Appl. No. 2,352,165), the United Kingdom and in Germany (EP 1 127 444 B1) have been found to include
10 allowable material or have issued as patents.

(3) Status of Claims

Claims 1, 3-8, 54-57 and 72-98 are now pending. The Amendment filed May 9th, 2008 included Claims 1, 3-8, 54-57 and 72-96 which were original or previously presented and Claims 97 and 98 which were new. This Amendment
15 was entered by the Examiner. Claims 28, 32, 42-49, 53 and 58-71 were previously cancelled.

Claims 1, 3-8, 54-57 and 72-98 stand rejected as follows:

Claims 92 and 96 were rejected under 35 U.S.C. 112, second paragraph. These rejections appear to have been resolved through an Examiner interview.

20 Claims 88-89 and 91 were rejected under 35 U.S.C. 102(e) as being anticipated by Gisby at al. (US 6,044,146).

Claims 1, 3-8, 54-55, 72-79, 81-82, 84-85 and 87 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gisby et al. (US 6,044,146) in view of Yacenda et al. (U.S. 5,515,426).

Claims 56-57 and 80 were rejected under 35 U.S.C. 103(a) as being
5 unpatentable over Gisby et al. (US 6,044,146) in view of Yacenda et al. (U.S. 5,515,426) and in further view of Vaios (U.S. 6,272,216).

Claims 83, 86 and 90 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gisby et al. (US 6,044,146) in view of Vaios (U.S. 6,272,216).

Claims 92-96 are rejected under 35 U.S.C. 103(a) as being unpatentable
10 over Gisby et al. (US 6,044,146) in view of Yacenda et al. (U.S. 5,515,426) and in further view of Vardi et al. (U.S. 6,389,127).

(4) Status of Amendments

An Amendment After Final was filed on May 9th, 2008. This amendment was entered by the Examiner on June 2, 2008.

15 **(5) Grouping of Claims**

Claims 7, 8, 54, 55, 72-77, 79, 81, 82, 86, 95 and 96 stand with Claim 1. Claims 57 and 80 stand with Claim 56. Claim 90 stands with Claim 88. Claim 5 stands with Claim 3. Claim 6 stands with Claim 4. Claims 85 and 87 stand with Claim 84. All other claims stand alone. The board is respectfully requested to
20 consider each of Claims 1, 3, 4, 56, 78, 83, 84, 88, 89, 91-94, 97 and 98 individually.

(6) **Summary of the Claimed Subject Matter**

The invention relates to systems and methods of managing telephone calls and meetings, (¶ [0003]).¹ More specifically, typical embodiments of the invention include systems and methods of determining when participants, referred to as a requestor and target(s) (¶ [0008]), are mutually available at which time a call can be connected. A wide variety of factors may be used to determine availability of a participants (¶ [0009]), including for example, if a participant is already on the phone, if a participants has a scheduled availability (¶ [0012] and [0255]), if the participant has pressed a button, or the like.

If a participant is unavailable, then a request for a call is queued (¶ [0012]). The system of the invention optionally monitors the availability of multiple targets and requestors, who may be queued to participate in a plurality of different calls (¶ [0136]). The requestor in one call request may be a target in another call request. When both participants are mutually available the call is automatically (**Abstract**) made or one of the participants is notified so that they can manually place the call. Calls are made in an order determined first by the order in which participants become available and second by an order in which requests were queued (¶ [0012]). For example, when a user becomes available and is a participant in more than one queued calls, the call placed in the queue first will typically be initiated first.

¹ Page and line numbers refer to the application as published [US 2003/0191676 A1]. References made herein to the specification as filed are meant to be illustrative examples and not an indication that the references are the only places within the specification that elements, limitations or features are taught.

In some embodiments a user can assign priority to other participants before a call request is made (**¶ [0011] and [0081]**). This priority may be used to override the order of queued calls such that a call with a higher priority target is initiated before a call that was placed first in the queue (**¶ [0012]**).

5 Some embodiments of the invention are directed toward preventing “call-tag” in which participants repeatedly try to reach each other at times when they are not available (**¶ [0005]**).

In summary, **independent Claim 1** recites a computer-implemented method for the intermediation of real time meetings. These meetings are mediated by a
10 decider system (D) (**FIG. 1A, ¶ [0033]**) and include at least a first meeting (M-A) and a second meeting (M-B). Claim 1 recites four potential participants in these two meetings: a target (T-A) and a requester (R-A) for the first meeting, and a target (T-B) and a requester (R-B) for the second meeting. However, one of these potential participants is actually a “common party” to the meetings, thus, there are three
15 actual participants recited (**¶ [0050] last sentence**).

More specifically, the decider system (D) (**FIG. 3 Step 302, ¶ [0050]**) receives a request for the first meeting (M-A) including the requester (R-A) and target (T-A). This request is queued (**FIG. 3 Step 304, ¶ [0051]**) and the decider system (D) then receives an availability status of each of the target (T-A) and requester (R-A) (**FIG.**
20 **6**). These availability status can include a status of “not available,” (**¶ [0134]**).

The decider system (D) then receives a request for the second meeting (M-B) including the requester (R-B) and target (T-B) (**¶ [0050]**). The second meeting (M-B) is to be “disjoint” in time with the first meeting (M-A). One of the parties to the first

meeting (M-A) is the same as one of the parties to the second meeting (M-B) and is referred to as the “common party,” (¶ [0050]). There are thus at least three distinct parties and two meetings.

The second meeting (M-B) is queued by the decider system (D) (**FIG. 3 Step 304, ¶ [0051]**). The queue thus includes at least two meeting requests, having a common party. The decider system (D) then receives an availability status of each of the target (T-B) and requester (R-B). These availability status can include a status of “not available.”

Finally, when the common party and one of the other parties are mutually available (**FIG. 3 step 306, ¶ [0052]**), the decider system (D) initiates (**FIG. 8 steps 802-806, ¶ [0132]**) one of the two meetings (M-A) and (M-B) (**FIG. 3 step 308, ¶ [0052]**), and dequeues the request for that meeting, (**FIG. 3 step 310, ¶ [0052]**).

In summary **dependent Claims 3 and 5** both include limitations reciting that availability is determined through a process call “polling,” (¶ [0087]).

In summary **dependent Claims 4 and 6** both included limitations reciting that availability status is “pushed,” (¶ [0087]).

In summary **dependent claim 56** includes limitations further comprising displaying an availability status of the target T-A on the requester system, along with an indication that the requestor has requested a meeting with the target, (¶ [0132], [0134], **FIG. 6 “display”**).

In summary **dependent claim 78** includes limitations that a non-common requester is part to another distinct meeting request, (¶ [0050]).

In summary **dependent claim 84** includes limitations that the target is a specific individual selected by the requester, (**¶ [0011]**).

In summary **dependent claim 83** includes limitations specifying that the common party is one of the requestors and participates in both of the meetings, (**¶ [0050]**).

In summary, **independent Claim 88** recites a method comprising transmitting or receiving a first request for a first real-time meeting between a requestor and a first target, the requestor and the first target being individuals, (**FIG. 3 step 302, ¶ [0050]**). A computing system is then used to determine that the first target is unavailable. The method includes waiting until the first target changes from being unavailable to being available, (**¶ [0052], [0137] and [0267]**). When the first target becomes available, it is determined if the requester is available, (**¶ [0119] and [0137]**). If the requestor is available, then the first real-time meeting is initiated, otherwise if the requester is unavailable, then the method waits until a time the requestor becomes available, (**¶ [0137] and [0267], FIG. 5 step 502, [0054]**).

In summary, **dependent Claim 89** recites determining if the first target is still available after the requester has become available; and if the target is available initiating the meeting, if the target is not available waiting until the target becomes available, (**FIG. 3 step 306, ¶ [0052]**).

In summary, **independent Claim 97** is identical to independent Claim 88 except that Claim 97 lacks the limitations “if the requestor is available, then initiating the first real-time meeting.”

(7) Grounds of rejection to be reviewed on Appeal

I. Whether Claims 88-89 and 91 were properly rejected under 35 U.S.C.

5 **102(e) as being anticipated by Gisby et al. (US 6,044,146).**

(a) whether conditional language, such as if X then Y is equivalent to optional language such as “may.”

(b) whether conditional language, such as if X then Y, can be disregarded in rejecting a claim under 35 U.S.C. 102(e).

10 (c) whether the Examiner has properly interpreted the claim terms “*requestor becomes available*” and “*becomes available*.”

(d) whether the cited art teaches having an available target, waiting for a requester to become available, when the requester becomes available finding that the target is no longer available and having to wait for the target to become available.

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II. Whether Claims 1, 3-8, 54-55, 72-79, 81-82, 84-85 and 87 were properly rejected under 35 U.S.C. 103(a) as being unpatentable over Gisby et al. (US 6,044,146) in view of Yacenda et al. (U.S. 5,515,426).

(a) whether the Examiner has properly interpreted the claim terms

20 “*availability status*.”

(b) whether the Examiner has properly interpreted the claim term

“*availability status*,” where “*availability status*” includes “*not available*.”

(c) whether the Examiner has properly interpreted the claim term “*not available*” in the claim element “*receiving by the decider system (D) an availability status of R-A, where a possible availability status includes not available.*”

5 (d) whether an “*availability status*” specified as being “*one of in, out, and unknown*” is taught by a teaching of “priority.”

(e) whether there is not proper motivation to combine the art as required to establish a prima facie case for rejection under 35 U.S. C. 103(a), because the combination of prior art suggested by the Examiner would
10 produce a non-workable system.

(f) whether the Examiner has properly interpreted the claim term “polled” as recited in Claims 3 and 5.

(g) whether the cited art teaches pushing of status information to the decider system by the Target T-A (claim 4) or by the party (claim 6).

15 (h) whether or not the limitations of Claim 78 require that a caller is a party to more than one request.

(i) At issue in the rejection of Claim 84 is the feasibility of combining the cited art with official notice taken by the Examiner.

III. Claims 56-57 and 80 were rejected under 35 U.S.C. 103(a) as being
20 **unpatentable over Gisby in view of Yacenda and in further view of Vaio**
(U.S. 6,272,216).

(a) At issue in the rejection of Claim 56 is whether the addition of the teachings of Vaio to those of Gisby would produce a result that is

contrary to the teachings of Gisby, and there would, therefore, not be a proper motivation to make the combination.

IV. Claim 83, 86 and 90 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gisby in view of Vaios.

5 (a) At issue in the rejection of Claim 83 is whether the cited art teaches all of the limitations of Claim 83.

V. Claims 92-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gisby et al. in view of Yacenda and in further view of Vardi.

10 (a) At issue in the rejection of Claim 92 is whether the Examiner has failed to present a prima facie case for rejection under 103(a) because the prior art does not teach or suggest all the claim limitations.

(b) At issue in the rejection of Claim 93 is whether the cited art teaches all of the limitations of Claim 93, specifically, whether Vardi et al. teaches
15 *“wherein the requestor R-A changes states from not available to available, while waiting for the realtime meeting M-A,”* as recited in Claim 93.

(c) At issue in the rejection of Claim 94 is whether the art cited by the Examiner includes all the limitations of Claim 94, specifically *“wherein the requestor R-A participates in another distinct realtime meeting.”*
20

(8) Arguments

I. Whether Claims 88-89 and 91 were properly rejected under 35 U.S.C. 102(e) as being anticipated by Gisby et al. (US 6,044,146).

- 5 **(a) whether conditional language, such as if X then Y is equivalent to optional language such as “may.”**

This issue applies to Claims 88- 91 and 97-98.

The Examiner has taken the position that conditional language within the claims is equivalent to optional language and can, therefore, be disregarded.

- 10 The Applicant has taken the position that claim limitations of the form “if X then Y” are not equivalent to optional language and must be anticipated by the prior art in order for the claim be properly rejected under 102(e).

Claim 88 recites a number steps concluding with:

- 15 *if the requestor is available, then initiating the first real-time meeting; and if the requester is unavailable, then waiting until a time the requestor becomes available.*

In the Final Office Action, the Examiner states:

- 20 The limitation “if the requester is unavailable, then waiting until a time the requestor becomes available” does not occur in methods where the requester is available, in the previous limitations. Therefore, since Gisby et al. teaches that the requester is available, the limitation “if the requester is unavailable, then waiting until a time the requestor becomes available” is not required.

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In response to this argument the Application requested that the Examiner provide statutory support for disregarding the limitations “*if the requester is unavailable, then waiting until a time the requestor becomes available.*”

In the Advisory Action of June 2, 2008 the Examiner cited MPEP Sec. 2111.04 which states “[c]laim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed...” The Examiner further states “the if language utilized in the claim suggest but does not
5 require certain steps to be performed when the claim scope is analyzed.”

MPEM Sec. 2111.04 states:

10 Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are:

- (A) "adapted to" or "adapted for" clauses;
- (B) "wherein" clauses; and
- 15 (C) "whereby" clauses.

The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the
20 court held that when a "'whereby' clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." *Id.* However, the court noted (quoting *Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "'whereby clause in a method claim is not given
25 weight when it simply expresses the intended result of a process step positively recited.'" *Id.*<

The Applicant argues that that the “if X then Y” structure of the claim limitations of Claim 88 is not language that “makes optional but does not require
30 steps to be performed.” Specifically, if the condition X is true then Y must be performed, it is not optional. In Claim 88 the condition is the availability of the requestor. In practice there will be times when the requestor is available and there will also be times when the requestor is not available. The availability is not

under the control of an entity practicing the steps of Claim 88. At those times when the requester is “*unavailable*,” the steps of “*then waiting until a time the requestor becomes available*” must be performed. The actor does not have any option but to perform these steps. The language is, therefore, not optional.

5 The section of the MPEP cited by the Examiner makes no mention of “if X then Y” language, nor do the Federal Circuit cases cited therein. For example, *Hoffer v. Microsoft* (ibid), relates to language that expresses an intended use (“for” language) and language that expresses an intended result (“whereby” language). Neither of these example are in any way related to the “if X then Y”
10 language of Claim 88. The Examiner’s position that conditional language is equivalent to optional language, is therefore, unsupported by statute regulation or case law.

 In contrast with the lack of support for the Examiner’s position in statute, regulation or case law, the Applicant is able to cite numerous examples in which
15 the courts have given full weight to “if X then Y” language. See, for example, *Altiris, Inc. v. Symantic Corp.* 318 F.3d 1363, 1371, 65 USPQ2d 1865, 1871 (Fed Cir. 2003), wherein the court held that conditional language in the body of the claim indicated that a “transferring” step and an “executing step” should
 necessarily be performed prior to boot up. In the same case at 1138 the court
20 states “[t]he only order mandated by the claim language is the conditional language in several of the steps, indicating that they must be performed after the “testing” step,” (emphasis added). The Applicant’s position that conditional language is, thus, supported in Federal Circuit decisions.

Further, assuming for the sake of argument that the Examiner is correct in her position that when there is some condition that a step is not always performed, then there is no need to show the limitations of that step in rejecting a claim. This position would make all conditional claim limitations irrelevant. By their very nature a claim that includes “if X then Y” suggests that there are some conditions under which X is false. The Applicant asks the Board to acknowledge that “if X then Y” is a commonly used and accepted structure for claim language, and does not represent “optional” language. A search of the USPTO database of issued patents (ACLM/“if true then” or ACLM/“if false then”) shows that there are 13,668 examples of issued patents that include a “if X then Y” structure (where X is limited to the special cases “true” or “false”). If the Examiner’s position were correct, then any method step that included conditional language could be ignored by merely pointing out the case where the condition is not satisfied. This is clearly not the case and the Examiner’s position, therefore, cannot be correct.

(b) whether conditional language, such as if X then Y, can be disregarded in rejecting a claim under 35 U.S.C. 102(e).

The Examiner has taken the position that a claim including the claim limitations “*if the requester is unavailable, then waiting until a time the requestor becomes available*” can be anticipated by the prior art even if the prior art does not teach these limitations because the limitations “are not required.” The

Applicant takes the position that these limitations must be taught by the prior art in order for the Examiner to establish a *prima facie* case for rejection under 102(e).

5 The requirement that an Examiner point out a prior art teaching of every limitation in a claim is well established. See for example, MPEP § 2106.II.C which states “[w]hen evaluating the scope of a claim, every limitation in the claim must be considered,” (Diamond v. Diehr, emphasis in original) and MPEP § 2131 which states a “claim is anticipated only if each and every element as set forth in the claim is found.” The Examiner’s position is directly contrary to these
10 requirements.

In contrast, other than MPEM Sec. 2111.04 discussed above, the Examiner has not provided statutory, regulatory or case law support for disregarding limitations of Claim 88. As pointed out above, MPEM Sec. 2111.04 does not apply to the limitations at issue.

15 The Examiner argues that there are conditions under which particular limitations will not occur so the limitations need not be present in the prior art. In response the Applicant respectfully points out that the Examiner’s arguments are off point. It is immaterial that under particular conditions a particular method step will not be performed, as long as they sometimes occur. What is material is
20 whether the Examiner has presented a *prima facie* case for rejection.

In the present application, there are other conditions in which the steps *will* be performed, e.g., the requester sometimes will and sometimes will not be available. Under these conditions the cited art clearly does not teach the

limitations of the claim. There is no basis that allows the Examiner to pick and choose which conditions under which the claim should be considered. The fact that there are some conditions under which a method step will occur means that the Examiner must find this step in the cited art or allow the claim.

5

**(c) whether the Examiner has properly interpreted the claim terms
“requestor becomes available” and “becomes available.”**

This issue applies to, for example, Claims 1, 88, 91, 93, 95, and 97, and
10 those claims that depend therefrom.

Claim 91 recites:

15 *91. (Previously Presented) The method of claim 88, further comprising;
transmitting or receiving a second request for a second real-time meeting
between a second requestor and the first target, the second request being
transmitted or received between a time the first request is transmitted or received
and a time the first real-time meeting is initiated; and
initiating the second real-time meeting prior to the first real-time meeting if
the second requester becomes available before the first requester.*

20 The prior art cited by the Examiner concerns call centers and teaches that
callers are placed in a call center queue and connected to agents when they
reach the end of the queue. It appears that the Examiner is reading the teaching
of a caller reaching the end of the queue as “becoming available.” At other times
that Examiner appears to read the mere presence in a prioritized queue as
25 teaching both available and unavailable status. Further, it appears to be the
Examiner’s position that reaching the end of a queue teaches becoming
available. The Applicant traverses these interpretations of the claim terms on at

least two grounds. First (a), this interpretation of the claim term “available” contradicts the use of the term within the specification and as would be understood by one of ordinary skill in the art. Second (b), in the cited art, the progression of the queue is a function of the availability of an agent who receives the call rather than the availability of a caller (requestor). Each of these grounds is discussed below.

(a) There is ample support for the Applicant’s position that the claim term “*availability status*” should be interpreted as one of ordinary skill in the art in light of the specification. See, for example: 2111.01.II, The ordinary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art. *Phillips v. AWT Corp.* MPEP § 2106. II.C, Office personnel must rely on the applicant’s disclosure to properly determine the meaning of the claims. *Markman v. Westview Instruments.* MPEP § 2106. II.C. & 2111, Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris; In re Hyatt.*

Applicant’s interpretation of the term “availability” is that a party has the ability and/or desire to engage in a meeting. In the specification the term “availability” is used, for example, to indicate the general ability or desire of a party to engage in a meeting. In various embodiments: a party can be off the phone but still available; someone may be available before a call is initiated and the call initiated when both parties become available; availability may be determined using a wide variety of criteria; and a meeting requestor can become available and then unavailable multiple times while waiting to have the meeting.

These uses of the term “availability” are independent of and contradictory to interpreting availability as a position in a call center queue. A requestor becoming available is, thus, not taught by advancement in a queue.

More specifically the specification characterizes “availability,” in various examples, as follows:

- (i) At paragraph [0009] (US 2003/0191676 A1) the specification teaches that in some circumstances availability is determined before adding a request to a queue while in other embodiments “requests are always queued before availability is determined.”

This shows that the specification treats availability as something independent of being placed in queue.

- (ii) At paragraph [0010] availability is taught to be tracked through actions such as “pressing buttons on the phone, speaking to the phone, knowing when the user is moving and how fast (i.e., the difference between walking and driving), knowing if the phone is on the user's body (body heat), eventually knowing the user's exact location, both to decide availability and to route calls to landlines in that exact location.” Again, this concept of “availability” is not taught by merely position in a queue.

- (iii) At paragraph [0012] the specification teaches that availability “is preferably determined based on a variety of factors, including whether the user is typing at his computer, whether the user is physically in the room, and scheduled periods of availability for a

user.” These factors are contradictory to the Examiner’s position that becoming available is determined by reaching the end of a queue. Specifically, whether or not a user is typing at a computer, the physical location of the user, or a scheduled period, have no relation to reaching the end of a call center queue.

(iv) At paragraph [0033] the specification teaches that the software uses various metrics to decide if a party is available for a call, including explicit action (i.e., by the party running a program or invoking a function in a running program) and implicit measurements such as tracking keyboard and mouse activity, noise in the room, phone use, lights, door activity, motion sensors (and other devices used by security systems), "electric eye" etc.” Again, availability decided through these metrics is not taught by a position in a call center queue.

(v) At paragraph [0035] it is taught that a call is initiated only after mutual availability has been made. This can either be performed by a computer or one of the parties can be ask to manually place a call. In contrast, the systems of the prior art require that a caller first initiate the call and wait “on hold” in order to stay in the call center queue. The position in a queue does not teach an availability that is determined before the call is *initiated*.

(vi) At paragraph [0051] it is taught that a user can change from being available to being unavailable. This is contrary to the Examiner's suggestion that reaching the end of a queue is what makes a caller available because there is no teaching in the cited art that they could be first available, then become unavailable and then available again.

(vii) Paragraphs [0054] – [0080] teach further criteria for determining availability, these include but are not limited to:

[0055] Start or end of call or other use of phone.

[0056] Off-hook: Unavailable

[0057] Recently off-hook: Probably available

[0058] Recent activity at computer input devices (mouse, keyboard etc.)

[0059] Probably available

[0060] Conversation near microphone

[0061] Available but possibly in meeting. Possibly Available after conversation stops.

[0062] Lights turned on/off (based on time of day)

[0063] Possibly available if lights turned on recently and still on. Not available after lights off outside daylight hours

[0064] Weight in chair or on floor

[0065] Possibly available if sitting in chair

[0066] Motion sensor triggers/stops triggering

[0067] Available if recent motion sensed in room

[0068] (others as needed)

[0069] Opening/closing of door

[0070] User may configure "door closed" as a signal of unavailability.

[0071] Spoken commands

[0072] Simple voice recognition (closest match) on phrases such as "hold calls" etc.

5 [0073] Computer keyboard/mouse based commands
 [0074] User may of course set availability state, or even browse
 pending calls using computer interface
 [0075] Touchtone commands
 [0076] If system is able to listen to DTMF tones from phone, users
 may prefer to use these to substitute for computer commands.
 [0077] Remote access touchtone commands
 [0078] If user is not at desk but using remote phone interface,
 touchtone codes (and caller ID information from incoming call) to
 10 control system, change location, set availability status.
 [0079] Scheduled periods of availability
 [0080] User may have default periods when they are always
 available unless they signal otherwise or metrics signal otherwise.
 The system may determine his availability by reading the user's
 15 calendar.

These criteria are all in agreement with the Applicant's interpretation of the
 term "availability" as, for example, to indicate the ability or desire of a party
 to engage in a meeting. In contrast, they are not criteria that would be
 20 used to determine when a caller reaches the end of a call center queue.
 Therefore, the queue of the cited prior art does not teach "availability" as
 used in the specification as filed. Or as would be understood by one of
 ordinary skill in the art.

(viii) Paragraph [0082] teaches that certain embodiments allow
 25 requesters and targets to specify their availability during a
 predetermined time period, such as the estimated duration of the
 RTM (real-time meeting). Again, this teaching is in agreement
 with the Applicant's the position and would not make sense if
 "availability" meant position in a queue.

5 (ix) Paragraph [0090] teaches that several messages can have mutual availability and these can be sorted by priority. This shows that availability is treated differently from priority, is in agreement with the Applicant's use of the term "availability" and that availability is determined independent of a queue position.

(x) Paragraph [0133] teaches that a user may become available when a call in which the user is engaged ends. This would not be possible if "availability" meant merely position in a queue but is in agreement with the Applicant's interpretation of the term "availability."

10 (xi) Paragraph [0237] teaches that a user can have an accidental status of available or unavailable. This would not be possible if "availability" meant merely position in a queue but is in agreement with the Applicant's interpretation of the term "availability."

15 (xii) Further, several of the claims as filed provide examples of "availability" that is certainly not taught by a position in a queue. For example, in Claim 19 as originally filed includes criteria for determining the highest priority request. One of these criteria is the "expected remaining time of availability." In Claim 20 as
20 originally filed the determination of "availability of a user" is taught to include monitoring the activity of a user to determine whether the user is physically present; and displaying at least

one request identifying a requestor...” In Claim 24 as originally filed a determination of whether the user is physically present is “is made by checking one or more of: start or end of a call; other use of phone; recent activity at computer input devices; conversation near microphone; lights turned on/off; weight in chair or on floor; a motion sensor; opening/closing of door; spoken commands; computer keyboard/mouse based commands; touchtone commands; and scheduled periods of availability.” In Claim 26 as originally filed it is taught that “a determination of availability is made by monitoring the activity of the user’s environment.” All of these example, are in agreement with the Applicant’s position as to the interpretation of the term “available” but, are clearly not in agreement with a position that “availability” is merely a call center queue position.

(b) Second, in rejecting Claim 91 the Examiner suggests that figures 2-3, column 3, lines 1-20, column 5, lines 20-40, column 6 lines 35-45, or column 7, lines 1-15 and 35-50, teach the limitations “*initiating the second real-time meeting prior to the first real-time meeting if the second requester becomes available before the first requester.*” More specifically, the text cited by the Examiner teaches the progression of a caller to first position a call center queue and the Examiner suggests this teachings “*the ... requester becomes available.*” The Applicant traverses these suggestions.

The Application believes that the position of the Examiner is incorrect because in the system of Gisby the requestor (caller) is always available while they are waiting in the queue and also because advancement in the queue is a function of the status of the target not the requestor.

5 Specifically, in Gisby a caller waits in a queue at a call center waiting for an agent to become available. The caller is on hold and waiting on the phone while in the queue. It is the position of the Applicant that a caller waiting on hold would always be considered “available.” They are, after all, waiting on hold to be connected and presumably would like to be connected as soon as possible, as
10 such, they are “available.” It is unclear how a person waiting on hold could be considered unavailable. Typically, they would like to engage in the meeting as soon as possible. The caller in Gisby is, therefore, always available while waiting in the queue and advancement to the first position in the queue cannot teach “*the ... requester becomes available.*”

15 The claim limitations “*initiating the second real-time meeting prior to the first real-time meeting if the second requester becomes available before the first requester,*” and where “*the second request being transmitted or received between a time the first request is transmitted or received and a time the first real-time meeting is initiated,*” require in combination that the order in which
20 requests are received is different than the order in which requesters become available.

However, in Gisby the requestors become available at the time each request is made (e.g., when they call the call center) and they are placed in the

queue (put on hold). As such, the order of availability is the same as the order of requests. The Applicant is unable to identify any teaching that the order in which real-time meetings are requested is not the same as the order in which requestors become available, particularly where that order of availability is
5 different than the order in which requests were made as recited in Claim 91. As such, the cited art does not teach *“initiating the second real-time meeting prior to the first real-time meeting if the second requester becomes available before the first requester,”* as recited in Claim 91.

Further, the Applicant is unable to identify any teaching of an unavailable
10 requestor in a queue within Gisby. Specifically, there is no mechanism for them to become unavailable and then available again. Further, as requestors are available when they first join the queue there does not appear to be any mechanism taught that would allow them requester to become unavailable and then available again while in the queue. In Gisby, it appears that requesters are
15 assumed to always be available if they are in the queue. As such, there is no way for the second requestor to become available before the first requestor and the cited art does not teach *“initiating the second real-time meeting prior to the first real-time meeting if the second requester becomes available before the first requester,”* as recited in Claim 91.

20 Further, in Gisby a caller advances in the queue as agents finish their calls and are ready to serve the next caller in the queue (Figures 2-3). As such, advancement in the queue is representative a change in state of the agent rather than that of the caller. The teachings cited by the Examiner therefore are more

properly interpreted as teaching an agent becoming available rather than a caller becoming available.

Column 3, lines 1-20 of Gisby teach a process by which calls of higher priority may bump calls of lower priority. These teachings, thus, do not appear to
5 be related to requestors becoming available, rather in these teachings, it is call center agents not requestors that become available and unavailable. Requestors always appear to be available, although some may have different priorities than others. The Applicant is unable to identify any teaching that the order in which real-time meetings are initiated is dependent on the order in which requestors
10 become available, particularly where that order is different than the order in which requests were made.

Column 5, lines 20-40 of Gisby teach the priority and bumping system of Figure 3. As discussed above, these teachings appear to be dependent on the availability of agents rather than the availability of requestors. Further, they do
15 not teach that the order in which real-time meetings are initiated is dependent on the order in which requestors become available, particularly where that order is different than the order in which requests were made.

Column 6 lines 35-34 teach actions based on the availability of agents rather than requestors.

20 Column 7 lines 1-15 and 35-50 teach actions based on the availability and capability of agents rather than requestors.

The Applicant is, thus, unable to identify any teaching in the cited art of “initiating the second real-time meeting prior to the first real-time meeting if the second requester becomes available before the first requester,” and where “the second request being transmitted or received between a time the first request is transmitted or received and a time the first real-time meeting is initiated,” as recited in Claim 91. The Applicant, therefore, requests that the Examiner point out teachings of these limitations within the cited art with particularity, or allow Claim 91.

(d) whether the cited art teaches having an available target, waiting for a requester to become available, when the requester becomes available finding that the target is no longer available and having to wait for the target to become available.

Claim 89 recites:

*89. (Previously Presented) The method of Claim 88, further comprising:
in response to the requester becoming available, determining if the first target is still available;
if the first target is still available, then initiating the first real-time meeting;
and
if the first target is unavailable, then waiting until the first target becomes available.*

It is the position of the Applicant that the Examiner has not properly pointed out teachings of these limitations in the prior art as required to establish a prima facie case for rejection under 35 U.S.C. 102. The Applicant looks forward

to the Examiner either pointing out such teachings in the Examiner's Answer, or withdrawing the rejection of Claim 89.

II. Whether Claims 1, 3-8, 54-55, 72-79, 81-82, 84-85 and 87 were properly rejected under 35 U.S.C. 103(a) as being unpatentable over Gisby et al. (US 6,044,146) in view of Yacenda et al. (U.S. 5,515,426).

**(a) whether the Examiner has properly interpreted the claim terms
“availability status.”**

Claim 1 recites:

1. (Previously Presented) A computer-implemented method for the intermediation of real time meetings, comprising:
receiving an indication by a requester system that a requester (R-A) wants to request a realtime meeting M-A with a target T-A;
sending to a decider system (D) a request to conduct a real time meeting M-A;
queuing the request for the meeting M-A by the decider system;
receiving by the decider system (D) an availability status of T-A;
receiving by the decider system (D) an availability status of R-A, where a possible availability status includes not available;
receiving an indication by the requester system that a requester (R-B) wants to request a realtime meeting M-B with target T-B, the meeting M-B to be disjoint in time with the meeting M-A; and such that one of the parties to M-A (R-A or T-A), known as the 'common party' is also the same as one of the parties to M-B (R-B or T-B) and thus there are three distinct parties, the decider D being associated with the common party;
sending to the decider system (D) a request to conduct a real time meeting M-B;
queuing the request for the meeting M-B by the decider system, such that requests for at least two distinct meetings, disjoint in time are placed in the queue, so that multiple pending real time meetings for the common party are in the queue at the same time;
receiving by the decider system (D) an availability status of target T-B;
receiving by the decider system (D) an availability status of the requester R-B, where a possible availability status includes not available;
initiating, by the decider, one of the two meetings M-A and M-B by connecting the common party and the other party to that meeting when the common party and that other party are mutually available; and

dequeueing the request for a meeting.

In the rejection of Claim 1, the Examiner appears to believe that
“*availability status*” is taught by merely a priority ranking among requesters, while
5 the Applicant disagrees. The Board is referred to the Applicant’s arguments
above with respect to Claims 1, 88 etc. as to the meaning of “*availability*.”

**(b) whether the Examiner has properly interpreted the claim term
“*availability status*,” where “*availability status*” includes “*not*
10 *available*.”**

While the discussion of the term “*availability status*” is discussed above
with reference to Claim 88, in Claim 1 the term is further characterized as
including “*not available*.” This further characterization is discussed here.

15 In the rejection of Claim 1, the Examiner appears to believe that
“*availability status*” where one of the possible statuses includes “*not available*” is
taught by merely a priority ranking among requesters.

It is the position of the Applicant that a teaching of a prioritization does not
teach an availability status that includes “*not available*.” Priority is a relative
20 ranking between objects (callers of Gisby) in which one object can have a greater
priority than another object. In contrast “*not available*” a unitary state
independent of the states of other objects. The Examiner has failed to provide
an explanation of how a priority ranking among callers teaches an availability
status that includes “*not available*.”

Further, in *Gisby*, all requestors appear to be available while in the queue even though they may have different priority. Thus, the terms “priority” and “availability” clearly have different uses and meanings in the cited art, and “priority” does not teach “availability.”

5 Further, the terms “priority” and “availability” clearly have substantially different dictionary definitions. For example:

The American Heritage dictionary of the English Language, Fourth Edition (2006) defines “priority” as:

1. Precedence, especially established by order of importance or urgency.
- 10 2.
 - a. An established right to precedence.
 - b. An authoritative rating that establishes such precedence.
3. A preceding or coming earlier in time.
4. Something afforded or deserving prior attention.

15 The same dictionary defines “availability” as:

1. Present and ready for use; at hand; accessible: *kept a fire extinguisher available at all times.*
- 20 2. Capable of being gotten; obtainable: *a bedspread available in three colors.*
3. Qualified and willing to serve or assist: *a list of available candidates; was not available for comment.*
4.
 - 25 a. *Chemistry* Capable of being used in a chemical reaction: available electrons.
 - b. *Botany* Present, as in soil, and capable of being used by plants as a nutrient: *available water; available minerals.*
 - c. Capable of bringing about a beneficial result or effect.
 - 30 d. *Law* Valid. Used especially of a plea.

The Applicant is unable to identify any commonality between these definitions that would allow the Examiner to suggest that “Priority” teaches “Availability.”

Finally, the Board is referred to the specification as filed which clearly treat the status of a requester and the priority of a request as different things. See for example Paragraph [0012] which teaches the separate determination of availability and priority. The examples provided in this paragraph of factors to be used in these determinations are mutually exclusive. See also Paragraph [0136] which teaches the display of priority and availability to a user. In this paragraph priority and availability are treated as separately displayable objects.

For at least the above reasons, “priority” and “availability” are distinctly different things and a teaching of “priority” does not anticipate a claim limitation of “availability.”

(c) whether the Examiner has properly interpreted the claim term “not available” in the claim element “receiving by the decider system (D) an availability status of R-A, where a possible availability status includes not available.”

The Examiner suggests Figures 24A and 24B, column 17 line 55-column 18, line 5 and column 19 lines 32-55 of Gisby teaches “wherein a callback function is indicated, the party to the called back (the requester) is unavailable, and the meeting does not occur until both parties are available.” The Applicant traverses this statement.

The specification as filed explicitly teaches examples of a requestor hanging up and still being available. See for example, paragraph [0056] which

teaches “Recently off-hook: Probably available” as a criteria for determining availability. Thus, the fact that a requestor has hung up, in the cited art, does not necessarily teach that the requestor is “*unavailable*,” and the art cited by the Examiner does not teach “*a possible availability status includes not available*,” as
5 recited in Claim 1.

Assuming for the sake of argument, that placement of the requestor on a call back list and the requestor hanging up represented unavailability of the requestor, there would be no way in the teachings of Gisby to recover from this state. Specifically, once the requestor hung up there would be no way for the
10 system to determine when the requestor became available again and can receive the callback.

Further, the Applicant **has now twice** previously argued:

15 In rejecting Claim 1 the Examiner states “Yacenda et al. discloses that the requestor (who called an unavailable target party) leaves his/her number for callback and then when the target party becomes available, the requestor is no longer available (and thus his /her status is unavailable).” The Applicant traverses this statement. Those parts of Yacenda cited by the Examiner teach determining if a
20 **called** party is unavailable. See, for example, step 1910 in Fig. 24. In the context of Claim 1, the called party would be the target and the caller would be the requestor. Thus, the unavailability that is determined in Yacenda is again that of the target not a requestor. (Emphasis in original)

The Examiner does not appear to have responded to this argument. The Board
25 is reminded that the Examiner must respond to these arguments. Specifically, MPEP §707.07(f) is entitled “Answer All Material Traversed” and states “[w]here the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.” The Applicant, therefore, again requests that the Examiner point out a

teaching of “receiving by the decider system (D) an availability status of R-A, where a possible availability status includes not available,” where it is the availability of the **requester** that is received, or allow Claim 1 and those claims that depend therefrom. The Applicant looks forward to a rebuttal to these arguments in the Examiner’s answer.

Further, the Applicant **has now twice** previously argued:

In the teachings of Yacenda the caller presumably hangs up after setting up the call back options. This action does not necessarily make the caller unavailable in some embodiments of the current invention. A caller can hang up and still be available. Availability is with regard to whether a party is ready to join in a meeting (e.g., call) and not whether they are holding on the line. See for example, page 3 lines 3-6, and page 6 line 12 through page 7 line 6 of the current specification as filed. To suggest that the caller hanging up teaches receiving an availability status of not available would be interpreting the term availability status in a manner that is contradictory to the specification.

The Examiner does not appear to have responded to this argument. The Applicant requests that the Examiner do so or allow Claim 1, and those claims that depend therefrom. The Applicant looks forward to a rebuttal to these arguments in the Examiner’s answer.

(d) whether an “availability status” specified as being “one of in, out, and unknown” is taught by a teaching of “priority.”

Claim 55 recites:

55. (Previously Presented) The method of claim 54, wherein the availability status is one of in, out, and unknown.

1 In rejecting Claim 55 the Examiner again suggests that the teaching of
“priority” teaches “*availability status*.” In response the Applicant previously
pointed out that, in Claim 55, the “*availability status*” is specified as being “*one of*
in, out, and unknown.” The Applicant also pointed out that it would not make
5 sense for a priority to be “*one of in, out, and unknown*.”

The Examiner does not appear to have responded to this argument. The
Applicant, therefore, again requests that the Examiner specifically point out how
a teaching of priority teaches an “*availability status*” of “in,” “out” and “*unknown*,”
as required to support a *prima facie* rejection under 103(e).

10

**(e) whether there is not proper motivation to combine the art as
required to establish a prima facie case for rejection under 35 U.S. C.
103(a), because the combination of prior art suggested by the
Examiner would produce a non-workable system.**

15

To establish a *prima facie* case of obviousness, three basic criteria must
be met. First, there must be some suggestion or motivation, either in the
references themselves or in the knowledge generally available to one of ordinary
skill in the art, to modify the reference or to combine reference teachings.

20 Second, there must be a reasonable expectation of success. Finally, the prior art
reference (or references when combined) must teach or suggest all the claim
limitations. The teaching or suggestion to make the claimed combination and the
reasonable expectation of success must both be found in the prior art, and not

based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03.

There are several criteria which must be met by the “suggestion or motivation” to combine the art. These criteria include: MPEP 2143.02, a
5 reasonable expectation of success is required. – some degree of predictability; MPEP 2143.01.V, the proposed modification cannot render the prior art unsatisfactory for its intended purpose; and MPEP 2143.01.VI, the proposed modification cannot change the principle of operation of a reference. It is the Applicant's position that none of these criteria are met by the Examiner's
10 rejection.

The Applicant previously argued that the combination suggest by the Examiner would result in an unworkable combination. In response the Examiner states “Examiner utilized Yacenda et al. to teach the concept that a possible availability status of the requestor R-A or R-B includes not available. Examiner
15 did not really [sic] on Yacenda et al. to disclose the underlying system on which the method operates. Yacenda et al. discloses that a requestor disconnects from the system and this is unavailable because he/she is no longer in the queue waiting to connect with the second party.”

In rejecting under 103, the burden is on the Examiner not merely to show
20 the teachings of limitations within separate art but to show that these teachings would be obvious to combine. The decision in *In re Vaeck* stands for the point that a combination that would not be likely to be successful would not be obvious.

The Examiner is combining the teaching of Yacenda, specifically an availability status that includes “unavailable,” with those of Gisby. However, the Applicant points out that Yacenda teaches that the availability status of “unavailable” is **only** available under a specific set of conditions, e.g., that the requester and target be on the same PBX. (PBX is a local telephone switch.) Presence on the same PBX is a requirement for the status of “unavailable” in Yacenda. This specific set of conditions is not met within the system of Gisby. Gisby is a call center in which callers are to be expected to call from a wide range of locations outside of a single PBX. See for example, column 1 lines 20-56 and in particular lines 52-56 which discusses pre-routing of calls. Thus, according to the requirements of Yacenda, it would not be possible to include an availability status that includes “unavailable,” within a system such as that of Gisby because Gisby includes more than a single PBX.

To adapt the teachings of Gisby to incorporate the teachings of Yacenda would require a “change in the principle of operation of Gisby,” e.g., it would require all callers to be on the same PBX. Without this change Gisby would no longer be satisfactory for its intended purpose. Specifically, it would not make sense to have a call center that could only handle calls from a single PBX. The combination suggested by the Examiner, therefore, does not meet the criteria required by MPEP 2143.02, MPEP 2143.01.V and MPEP 2143.01.VI discussed above. As such, it is the position of the Applicant that the Examiner has not presented a prima facie case for the rejections under 35 U.S. C. 103(a)

In response to the Examiner's statement that "Examiner utilized Yacenda et al. to teach the concept that a possible availability status of the requestor R-A or R-B includes not available. Examiner did not really [sic] on Yacenda et al. to disclose the underlying system on which the method operates," the Applicant
5 points out that while Yacenda need not disclose the "underlying system," the teaching to be combined with Gisby must at least work within the system of Gisby. As pointed out above, this is not the case.

(f) whether the Examiner has properly interpreted the claim term
10 **"polled" as recited in Claims 3 and 5.**

In rejecting Claim 3 the Examiner suggests that the polling of target T-A is taught by a teaching of "column 5, lines 5-11, wherein the system knows if the target is logged in and busy." In response to the Applicant's arguments that the
15 cited art does not teach polling, the Examiner states "the term poll means to survey in the broadest reasonable interpretation of the term." The Applicant traverses this statement.

According to MPEP § 2111.01.II, the ordinary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art.
20 *Phillips v. AWT Corp.* It is the position of the Applicant that one of ordinary skill in the art would equate the term "poll" with the term "survey." Rather, in the arts of computer science and communication the term "poll" has a much more specific

meaning. For example, the Microsoft Computer Dictionary 5th Ed. defines polling as:

5 The process of periodically determining the status of each device in a set so that the active program can process the events generated by each device, such as whether a mouse button was pressed or whether new data is available at a serial port. This can be contrasted with event-driven processing, in which the operating system alters a program or routine to the occurrence of an event by means of an interrupt or message.

10 Likewise, the Encyclopedia of Technology Terms (Que press 2001) defines polling as:

15 In electronic communication, 'polling' is the continuous checking of other programs or devices by one program or device to see what state they are in, usually to see whether they are still connected or want to communicate.

20 Specifically, in multipoint or multidrop communications (a controlling device with multiple devices attached that share the same line), the controlling device sends a message to each device, one at a time, asking each whether it has anything to communicate (in other words, whether it wants to use the line).

These definitions are provided merely for the purposes of example.

25 However, they characterize polling as a specific type of communication mode to which there alternatives. The Applicant is unable to identify any teaching in the cited art that Gisby uses the specific type of communication included in "polling," rather than one of the alternatives.

30 The Applicant respectfully points out that the Examiner now has the burden of either accepting these definitions for the term "poll," or to provide rebuttal evidence.

The Applicant is unable to identify any teaching within Gisby that fit within the term polling as used in communications and computer science. Therefore, Gisby does not teach “*wherein a system of the target T-A is polled to determine the availability of target T-A.*,” as suggested by the Examiner.

5

(g) whether the cited art teaches pushing of status information to the decider system by the Target T-A (claim 4) or by the party (claim 6).

Claim 4 recites:

10 *4. (Previously Presented) The method of claim 1, wherein the system of the target T-A pushes the availability status of target T-A to the decider system.*

Claim 6 recites:

15 *6. (Previously presented) The method of claim 1, wherein the system of a party pushes the party’s availability status to the decider system.*

In rejecting Claims 4 and 6 the Examiner states “Gisby et al. teaches wherein the system of a party pushes party’s availability status to the decider system (See column 5, lines 5-11, column 7, lines 1-15 and 30-50, wherein the system knows if the target is busy based on status information established by the target).” The Applicant traverses this statement.

20

Column 5 lines 5-11 teach “[t]he status of telephones at agent stations is also monitored, so the application has access to real-time information as to which logged-in agents are busy on a call and which are not. ...” Column 7 lines 1-15 teach “an agent residing at agent station 33 may be reported busy because he is

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answering E-mails and cannot be interrupted by a telephone call unless it is of priority 7 or above.” Column 7 lines 30-50 teach “[an agent’s] status was made available to reporting software via a database so that no calls ...,” “availability status of agent such as agents 1-4 will change in real time...,” and
5 “Agent 4 is reported busy...”

First, while the cited art teaches “monitoring,” “reporting” or making “available” of status information, the Applicant is unable to find any teaching that this includes *pushing* by a target system the availability status of the target to a decider system (Claim 4) or pushing by a party system the availability status of
10 the party to the decider system (Claim 6). Specifically, the Applicant is unable to identify any teaching that information is “**pushed**” rather than being communicated by some other means, for example pulling.

The term “push” has specific meaning in the field of computer science. For example, Barron’s “Dictionary of Computer and Internet Terms” (8th ed. 2003)
15 Defines pushing as “the process whereby the network delivers information to a client machine without waiting for the user to request it... (contrast PULL).”

This definition is provided merely for the purposes of example. However, it characterizes pushing as a specific type of communication mode to which there alternatives, e.g., pulling. The Applicant is unable to identify any teaching in the
20 cited art that Gisby uses the specific type of communication included in “pushing,” rather than one of the alternatives.

(h) whether or not the limitations of Claim 78 require that a caller is a party to more than one request.

Claim 78 recites:

5 *78. (Previously Presented) The method of claim 1, wherein a non-common requester R-A or R-B is party to another, distinct meeting request.*

The Applicant believes that the limitations of Claim 78 require that a caller
10 be a party to more than one meeting request. The Examiner believes that the limitations of Claim 78 do not require that a caller be party to more than one meeting request. The Applicant and the Examiner appear to agree that if Claim 78 did require that the caller be a part to more than one meeting request, then the cited prior art would not anticipate Claim 78.

15 To clarify:

(a) By characterizing the requestors R-A and R-B as non-common, then T-A and T-B must be the common party because as recited in Claim 1, at least one of (R-A and R-B) or (T-A and T-B) are common.

(b) As such the requests recited in Claim 1 by R-A and R-B must be made to
20 the same common target.

(c) These requests by R-A and R-B are not distinct because they are directed at the same target.

(d) The language of Claim 78 states that one of the requestors is “party to another, distinct meeting request.”

(e) This other distinct meeting request cannot be one of the requests recited in Claim 1 because these requests, as discussed above are not distinct.

(f) Therefore, at least one of R-A and R-B must be a party to an additional request that other than those recited in Claim 1.

5 (g) The request recited in Claim 1 plus the additional request not recited in Claim 1 makes two requests and that requestor must be a party to more than one request.

Finally, the cited art does not show that one of the requestors R-A and R-B is a party to more than one distinct meeting request and Claim 78 is not anticipated
10 by the prior art.

(i) At issue in the rejection of Claim 84 is the feasibility of combining the cited art with official notice taken by the Examiner.

15 Claim 84 recites:

84. (Previously Presented) the method of claim 1, wherein the target is a specific individual selected by the requestor.

The Examiner expressly admits that “[n]either Gisby et al. nor Yacenda et
20 al. expressly disclose that the target is a specific individual selected by the requestor.” The Examiner further “takes official notice that it is old and well known in the telephone art for a calling party to request a specific individual when placing a call to a second organization, such as when a person calls a company and asks to speak with a certain manager.” The Examiner is suggesting that the

system of Gisby be modified to allow a requestor to select a specific one of Agents 1-4 of Gisby et al.

It is the Applicant's position that such a modification is in direct contradiction to the teachings of Gisby. As such, the art teaches away from the Examiner's suggested modification. As noted above, according to the MPEP, the proposed combination cannot render the prior art unsatisfactory for its intended purpose; and cannot change the principle of operation of a reference. As such the proposed combination and the rejection under 103(a) lacks proper motivation.

Gisby is quite specific that "[d]estinations, in the call center agent stations are selected on a basis of agent availability," (abstract). This "maximizes efficiency of call centers," (Col. 3 lines 25-26). The modification suggested by the Examiner would cause agents to be selected on a basis other than that of availability because the selection would have to be made before the agent becomes available. This is a change in the principle of operation of Gisby and contradicts the teachings of the cited art. Further, it is a goal of Gisby to "maximize[s] efficiency of call centers. To allow callers to select specific targets ahead of time would reduce the efficiency of call centers because agents would no longer be assigned to calls on the basis of agent availability. Thus, the modification suggested by the Examiner is contrary one of the primary goals of Gisby and Gisby could no longer achieve one of its intended purposes (efficiency maximization).

As such, the combination suggested by the Examiner do not satisfy the required criteria. Specifically, the combination does not satisfy: MPEP 2143.01.V, the proposed modification cannot render the prior art unsatisfactory for its intended purpose; and MPEP 2143.01.VI, the proposed modification cannot change the principle of operation of a reference. The Examiner has, thus, failed to present a prima facie case for rejection under 35 U.S.C. 103(a).

III. Claims 56-57 and 80 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gisby in view of Yacenda and in further view of Vaios (U.S. 6,272,216.

(a) At issue in the rejection of Claim 56 is whether the addition of the teachings of Vaios to those of Gisby would produce a result that is contrary to the teachings of Gisby, and there would, therefore, not be a proper motivation to make the combination.

Claim 56 recites:

56. (Previously Presented) The method of claim 1, further comprising displaying an availability status of the target T-A on the requester system, along with an indication that the requestor has requested a meeting with the target.

In rejecting Claim 56 the Examiner states it “would have been obvious to one of ordinary skill in the art ... also allow the requester system to view availability data and meeting requests by the requester in order to more efficiently let the requester gain service in a more timely manner” The Applicant traverses this statement.

It is the position of the Applicant that the combination of Vaios and Gisby does not have a reasonable expectation of success because those features of Vaios used to display the availability status of a target (agent) are not possible in Gisby. Further, adding these features to Gisby would be directly contrary to the
5 proposes of Gisby. As such, the combination does not satisfy the criteria: the combination does not satisfy: MPEP 2143.01.V, the proposed modification cannot render the prior art unsatisfactory for its intended purpose; and MPEP 2143.01.VI, the proposed modification cannot change the principle of operation of a reference.

10 Specifically, in Gisby the requestor may be eventually connected with any one of the Agents 1-4. Because in Gisby agents are selected on the basis of availability it is not known in Gisby which agent the requestor will be connected. For example, the target that the requestor is eventually connected to is a function of which target becomes available first after the requestor has reached the first
15 position in the queue. This target is not known before hand. Gisby specifically teaches this approach. For example, Gisby is quite specific that “[d]estinations, in the call center agent stations are selected on a basis of agent availability,” (abstract). This “maximizes efficiency of call centers,” (Col. 3 lines 25-26).

In contrast, in Vaios it is known which specific target the requestor will
20 eventually be connected to well before the connection is made, e.g. while the requestor is waiting. In Vaios it is possible to display the availability status of the target a requestor will eventually be connected with *only because* that target has

been specified (by one of many alternative mechanisms) while the requestor is waiting.

To modify Gisby so as to display “*an availability status of the target T-A on the requester system,*” as recited in Claim 56, it would be necessary to know
5 which target the requestor will be connected to while the requestor is waiting. This would require that the target is selected before the target becomes available. As such the target would be selected on a basis other than agent availability. This is contrary to the teachings of Gisby and results in a less than maximum efficiency of call centers and, thus, eliminates one of the purposes of
10 Gisby.

In order to combine the teaching of Vaios, of displaying the availability status of the target the requestor will eventually be connected to, with the teachings of Gisby, the teachings of Gisby would have to be modified such that the target the requestor will eventually be connected to is known in advance.
15 This is required because otherwise the system would not know which targets availability to display. However, as discussed in the above paragraph, such a modification would be contrary to the teachings of Gisby and fail to “maximize[] efficiency of call centers.”

The proposed modification of Gisby using the teachings of Vaios is,
20 therefore, contrary to the teachings of the cited art and the rejection under 103(a) should be withdrawn as lacking motivation.

IV. Claim 83, 86 and 90 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gisby in view of Vaios.

(a) At issue in the rejection of Claim 83 is whether the cited art teaches all of the limitations of Claim 83.

5

Claim 83 recites:

83. (Previously Presented) The method of claim 1, wherein the common party is the requestor R-A and R-B and the common party participates in both of the meetings M-A and M-B.

10

In rejecting Claim 83, the Examiner admits that Gisby “does not expressly disclose that the common party is the requestor R-A and R-B and that common party participates in both of the meetings M-A and M-B.” The Examiner further suggests that Vaios teaches that a “requestor has two or more real-time meetings in the queue, and thus is the common party in both of the meeting[s]...” The Applicant traverses this statement.

15

The Applicant respectfully points out that none of the art cited by the Examiner teaches “*and the common party participates in both of the meetings M-A and M-B,*” as recited in Claim 83. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). As such, the cited art does not anticipate Claim 83.

20

While Vaios teaches that a requestor may be queued for two meetings, once a first of the two meetings is initiated the requestor is removed from the

25

queue of the second meeting. As such, Vaios teaches that the requestor
“participates” in only one of the two or real-time meetings in the queue, not “both”
as recited in Claim 83. See for example, Col. 6 lines 6-10 of Vaios which state
“[i]f, however, additional queued requests were spawned as part of a multiple-
5 agent or multiple-resource request on behalf of this caller, then at step 424, all of
the remaining pending requests are deleted from the system.” Thus, once the
first meeting is established all other pending requests are cancelled and a
second pending meeting does not occur. The requestor never participates in the
second meeting and the claim limitations are not taught in the prior art.

10
**V. Claims 92-92 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Gisby et al. in view of Yacenda and in further view of Vardi.**

(a) At issue in the rejection of Claim 92 is whether the Examiner has
failed to present a prima facie case for rejection under 103(a)
15 because the prior art does not teach or suggest all the claim
limitations.

Claim 92 recites:

20 *92. (Previously Presented) The method of Claim 78, wherein the non-
common requester R-A or R-B that is party to another distinct meeting
request is a target in that meeting request.*

To establish a prima facie case of obviousness, three basic criteria must
be met. First, there must be some suggestion or motivation, either in the
25 references themselves or in the knowledge generally available to one of ordinary

skill in the art, to modify the reference or to combine reference teachings.

Second, there must be a reasonable expectation of success. *Finally, the prior art reference (or references when combined) must teach or suggest all the claim*

limitations. The teaching or suggestion to make the claimed combination and the

5 reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03.

In rejecting Claim 92 the Examiner suggests that column 7 line 50 thru column 8 line 5 teach “*wherein the requestor of the conference becomes the*

10 *target of a callback or someone to be conference in.*”

The text cited by the Examiner teaches:

15 User 10 may alternatively send a request, typically via the Internet, to an operator or an automatic telephone switch 28 to initiate two calls, one to user 10 and one to user 12, and conference the two calls using known conferencing means. User 10 typically can configure his client software to send the telephone numbers for himself and for user 12, or other means of identifying user 10 and user 12, in addition to billing information indicating who should be billed for the call, along with proper authorization. User 10 may request a conference call with more than one user by sending
20 multiple telephone numbers and/or identifiers in this manner. User 10 may additionally indicate if a conference call is to be tried immediately, with calls to be conferenced-in as the specified telephone numbers become available, or tried only when all the telephone numbers requested for a conference are known to be available, such as through requesting the
25 status of the telephone numbers as described hereinabove. User 10 may also initiate a call back, delivering his telephone number and availability to an automated switch, to be conferenced with one of the switch's outgoing dialing lines. User 10 may additionally indicate if a call back is to be tried immediately or tried only when the telephone number with which the call
30 back is concerned is known to be available, such as through requesting the status of the telephone number as described hereinabove.

While this text teaches callbacks and conference calls, these are not examples of a “distinct meeting request” as recited in Claims 78 and 92. Specifically, the callback and conference calls taught are both for the purpose of completing the original request and involve the same parties. They are, therefore, in response to the original request and are not distinct meeting requests.

The cited art, therefore, does not teach all the limitations of Claim 92 and Examiner has failed to present a prima facie case for rejection under 103(a) because the prior art does not teach or suggest all the claim limitations.

(b) At issue in the rejection of Claim 93 is whether the cited art teaches all of the limitations of Claim 93, specifically, whether Vardi et al. teaches “*wherein the requestor R-A changes states from not available to available, while waiting for the realtime meeting M-A,*” as recited in Claim 93.

Claim 93 recites:

93. (Previously Presented) The method of Claim 1, wherein the requestor R-A changes states from not available to available, while waiting for the realtime meeting M-A.

In rejecting Claim 93 the Examiner states “Vardi et al. discloses the state of parties changing while waiting for a meeting, beginning with being unavailable, and ending available (See column 7, line 50-column 8 line 5), wherein the conference member is unavailable and becomes available.”

The cited text (quoted above in the discussion of Claim 92) does teach that the target of a meeting request changes states from not available to available. However, Claim 93 specifically recites that it is the “*the requestor R-A*” that changes states from *not available to available, while waiting for the realtime*
5 *meeting M-A.*” A teaching of a target changing state does not anticipate a claim that recites that a “requestor” changes state. As such, the cited art does not teach all the limitations of Claim 93.

(c) At issue in the rejection of Claim 94 is whether the art cited by the
10 Examiner includes all the limitations of Claim 94, specifically
“*wherein the requestor R-A participates in another distinct realtime meeting.*”

Claim 94 recites:

15 94. (Previously Presented) The method of Claim 1, wherein the requestor R-A participates in another distinct realtime meeting while waiting for the realtime meeting M-A.

In rejecting Claim 94, the Examiner states “Vardi et al. discloses teaches
20 the requestor R-A participates in another distinct real-time meeting while waiting for a meeting M-A (see column 7, line 50-column 8, line 5 wherein the requestor involves himself in another meeting while waiting for the other target to conference in). The text cited by the Examiner is quoted above in the discussion of Claim 92.

The text cited by the Examiner concerns the establishment of a conference call, in one instance a conference call can be “tried immediately, with calls to be conferenced-in as the specified telephone numbers become available.” However, the Applicant points out that meeting with a first target while
5 waiting for a second target to join in to the meeting does not constitute “*another distinct realtime meeting*,” as recited in Claim 94. The conference call is a single meeting at which different people may join at different times. Even if, for the sake of argument, the conferencing-in of a second target were to be considered a second meeting, this meeting would not be “*distinct*” because it is still part of
10 the same telephone call.

For at least these reasons, the text cited by the Examiner does not teach all of the limitations of Claim 94, and the Examiner has failed to provide a prima facie case for the rejection of Claim 94.

15

Conclusion

In view of the above remarks, the pending claims in this application are
believed to be in condition for allowance

5

Respectfully submitted,

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By: 

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15

(9) Appendix A -Listing of Claims

1. (Previously Presented) A computer-implemented method for the intermediation of real time meetings, comprising:

receiving an indication by a requester system that a requester (R-A) wants to request a realtime meeting M-A with a target T-A;

sending to a decider system (D) a request to conduct a real time meeting M-A;

queuing the request for the meeting M-A by the decider system;

receiving by the decider system (D) an availability status of T-A;

receiving by the decider system (D) an availability status of R-A, where a possible availability status includes not available;

receiving an indication by the requester system that a requester (R-B) wants to request a realtime meeting M-B with target T-B, the meeting M-B to be disjoint in time with the meeting M-A; and such that one of the parties to M-A (R-A or T-A), known as the 'common party' is also the same as one of the parties to M-B (R-B or T-B) and thus there are three distinct parties, the decider D being associated with the common party;

sending to the decider system (D) a request to conduct a real time meeting M-B;

queuing the request for the meeting M-B by the decider system, such that requests for at least two distinct meetings, disjoint in time are placed in the queue, so that multiple pending real time meetings for the common party are in the queue at the same time;

receiving by the decider system (D) an availability status of target T-B;

receiving by the decider system (D) an availability status of the requester R-B, where a possible availability status includes not available;

initiating, by the decider, one of the two meetings M-A and M-B by connecting the common party and the other party to that meeting when the common party and that other party are mutually available; and

dequeuing the request for a meeting.

2. (Cancelled)

3. (Previously Presented) The method of claim 1, wherein a system of the target T-A is polled to determine the availability of target T-A.

4. (Previously Presented) The method of claim 1, wherein the system of the target T-A pushes the availability status of target T-A to the decider system.

5. (Previously Presented) The method of claim 1, wherein a system of a party is polled to determine the party's availability.

6. (Previously Presented) The method of claim 1, wherein the system of a party pushes the party's availability status to the decider system.

7. (Previously Presented) The method of claim 1, wherein mutual availability is determined by checking the availability of one of the target/requester pairs T-A/R-A and T-B/R-B.

8. (Previously Presented) The method of claim 1, wherein a request is sent to a plurality of targets and mutual availability is determined when the requester and one of the plurality of targets is available.

9.-53. (Cancelled)

54. (Previously Presented) The method of claim 1, further comprising displaying the availability status of one of the requesters R-A and R-B on the target system, along with an indication that one of the requesters R-A and R-B has requested a meeting.

55. (Previously Presented) The method of claim 54, wherein the availability status is one of in, out, and unknown.

56. (Previously Presented) The method of claim 1, further comprising displaying an availability status of the target T-A on the requester system, along with an indication that the requestor has requested a meeting with the target.

57. (Previously Presented) The method of claim 56, wherein the availability status is one of in, out, and unknown.

58.-71. (Cancelled)

72. (Previously Presented) The method of claim 1, wherein the decider system a part of the system of the common party for whom it is responsible, and wherein the decider already knows the status of the common party for which it is responsible.

73. (Previously Presented) The method of claim 1, wherein the decider system chooses to activate one of two real time meetings, where the parties for both meetings are available, based on at least one of:

ranking information including manual ranking through a user interface presented to the common party;

priority information provided by either party;

the order in time in which the requests were made; and
relationship information about the parties based on party input or past history.

74. (Previously Presented) The method of claim 1, wherein the decider system chooses to activate one of two real time meetings, where the parties for both meetings are available, based on ranking information including manual ranking through a user interface presented to the common party.

75. (Previously Presented) The method of claim 1, wherein the decider system chooses to activate one of two real time meetings, where the parties for both meetings are available, based on priority information provided by either party.

76. (Previously Presented) The method of claim 1, wherein the decider system chooses to activate one of two real time meetings, where the parties for both meetings are available, based on the order in time in which the requests were made.

77. (Previously Presented) The method of claim 1, wherein the decider system chooses to activate one of two real time meetings, where the parties for both meetings are available, based on relationship information about the parties based on party input or past history.

78. (Previously Presented) The method of claim 1, wherein a non-common requester R-A or R-B is party to another, distinct meeting request.

79. (Previously Presented) The method of claim 1, wherein a non-common target is party to another distinct meeting request.

80. (Previously Presented) The method of claim 1, wherein each of the three systems has requested and has pending requests for two or more real-time meetings in the queue.

81. (Previously Presented) The method of claim 1, wherein if all parties become available at once, only one of the meetings M-A and M-B will occur immediately and the other meeting will remain queued.

82. (Previously Presented) The method of claim 1, wherein the common party is the target T-A and T-B.

83. (Previously Presented) The method of claim 1, wherein the common party is the requestor R-A and R-B and the common party participates in both of the meetings M-A and M-B.

84. (Previously Presented) the method of claim 1, wherein the target is a specific individual selected by the requestor.

85. (Previously Presented) The method of claim 1, wherein the target is a specific individual.

86. (Previously Presented) The method of claim 1, wherein the common party is the requestor R-A and R-B.

87. (Previously Presented) The method of claim 1, wherein the target is any one of a group of targets.

88. (Previously Presented) A method comprising:

- transmitting or receiving a first request for a first real-time meeting between a requestor and a first target, the requestor and the first target being individuals;
- determining that the first target is unavailable, using a computing system;
- waiting until the first target changes from being unavailable to being available;
- when the first target is available, determining if the requester is available;
- if the requestor is available, then initiating the first real-time meeting; and
- if the requester is unavailable, then waiting until a time the requestor becomes available.

89. (Previously Presented) The method of Claim 88, further comprising:

- in response to the requester becoming available, determining if the first target is still available;
- if the first target is still available, then initiating the first real-time meeting; and
- if the first target is unavailable, then waiting until the first target becomes available.

90. (Previously Presented) The method of claim 88, further comprising:
transmitting or receiving a second request for a second real-time meeting
between the first requester and a second target, the second request being transmitted
or received between a time the first request is transmitted or received and a time the
first real-time meeting is initiated; and
initiating the second real-time meeting prior to the first real-time meeting if the
second target becomes available before the first target.

91. (Previously Presented) The method of claim 88, further comprising;
transmitting or receiving a second request for a second real-time meeting
between a second requestor and the first target, the second request being transmitted
or received between a time the first request is transmitted or received and a time the
first real-time meeting is initiated; and
initiating the second real-time meeting prior to the first real-time meeting if the
second requester becomes available before the first requester.

92. (Previously Presented) The method of Claim 78, wherein the non-common
requester R-A or R-B that is party to another distinct meeting request is a target in that
meeting request.

93. (Previously Presented) The method of Claim 1, wherein the requestor R-A
changes states from not available to available, while waiting for the realtime meeting M-
A.

94. (Previously Presented) The method of Claim 1, wherein the requestor R-A participates in another distinct realtime meeting while waiting for the realtime meeting M-A.

95. (Previously Presented) The method of Claim 1, wherein the requester R-A becomes available when the requestor R-A terminates a call.

96. (Previously Presented) The method of Claim 1, wherein the requester R-A and target T-A are both available when they are both off of the phone.

97. (Previously Presented) A method comprising:
transmitting or receiving a first request for a first real-time meeting between a requestor and a first target, the requestor and the first target being individuals;
determining that the first target is unavailable, using a computing system;
waiting until the first target changes from being unavailable to being available;
when the first target is available, determining if the requester is available; and
if the requester is unavailable, then waiting until a time the requestor becomes available.

98. (Previously Presented) The method of Claim 88, further comprising:
in response to the requester becoming available, determining if the first target is still available; and

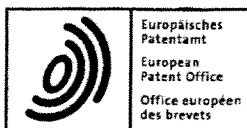
if the first target is unavailable, then waiting until the first target becomes available.

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(10) Appendix B –Evidence Appendix

Related European Patent (Nationalized in Germany and UK), opposition period ended June 18, 2008.

Office Action received April 22, 2008 in Related Canadian Patent Application (2,352,165) indicating allowable material including Claim 1.



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Reference FB 10255	Application No./Patent No. 99962653.4 - 2414 / 1127444
Applicant/Proprietor Templeton, Bradley S.	

Communication regarding the expiry of the time limit within which notice of opposition may be filed

You are hereby informed that on expiry of the nine-month time limit from the publication of the mention of the grant of European patent No. 1127444 no notice of opposition had reached the files.

The entry in the Register of European Patents will be automatically generated by the electronic data processing system.

For the Examining Division



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(54) **METHOD AND APPARATUS FOR INTERMEDIATION OF MEETINGS AND CALLS**

Verfahren und System zur Vermittlung von Sitzungen und Anrufen

PROCEDE ET APPAREIL D'INTERMEDIATION DE REUNIONS ET D'APPELS TELEPHONIQUES

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EP-A- 0 539 105 EP-A- 0 557 777
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- **PATENT ABSTRACTS OF JAPAN** vol. 009, no. 318 (E-366), 13 December 1985 (1985-12-13) & JP 60 150373 A (NIPPON DENKI KK), 8 August 1985 (1985-08-08)
- **PATENT ABSTRACTS OF JAPAN** vol. 016, no. 344 (E-1239), 24 July 1992 (1992-07-24) & JP 04 104554 A (NEC CORP), 7 April 1992 (1992-04-07)
- **"VOICE SYNTHESIS FOR CONFERENCE CALLING BY INTERFACE TO VARIABLE DISTRIBUTION LIST" IBM TECHNICAL DISCLOSURE BULLETIN, US, IBM CORP. NEW YORK, vol. 37, no. 1, 1 January 1994 (1994-01-01), page 285 XP000428778 ISSN: 0018-8689**

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

EP 1 127 444 B1

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EP 1 127 444 B1

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Description

[0001] This application claims priority under 35 U.S.C. § 119(e) from U.S. Provisional Application No. 60/104,255 of Bradley S. Templeton, filed October 14, 1998.

BACKGROUND OF THE INVENTIONField of the Invention

[0002] The present invention relates generally to productivity tools and, specifically, to a method and apparatus that aid in managing telephone calls and meetings.

Related Art

[0003] Most people have experienced the phenomenon known as "phone tag." One person calls a second person and leaves voicemail. The second person returns the call, only to leave voicemail in turn. This sequence is repeated over the course of hours or days, leaving both callers frustrated by the fact that they have not spoken to each other in person. A similar phenomenon occurs when two people try to schedule conference calls and meetings or when two people try to get together for a face to face talk.

[0004] Even voice mail, faxes, pages, cell phones and e-mail have not solved this problem. In fact, they have only made it worse. Phone tag for voicemail, faxes and pages result in vast amounts of lost time - not just time calling and leaving messages, but delays in getting important phone calls made. In addition, tremendous time is wasted trying to be available for important calls, and even more by being interrupted by calls at just the wrong time when real work is getting done.

[0005] WO 98/21870 discloses an apparatus and a method for scheduling a telephone call including a calendar system within a telephone system and having an interface means for obtaining information from a calling party, calendar data which includes a calendar for a called party, and an agent means. The agent means, in response to a request to schedule a telephone call with a called party, searches the calendar of the called party to determine an available slot for the telephone call. After confirming that the available slot for the telephone call is acceptable for the calling party, the agent means schedules the telephone call in the available slot of the calendar for the called party.

[0006] EP 0 557 777 refers to a telecommunications system for the connection of communications terminals by which it is possible to store a call-back order in the system memory at the calling terminal after an unsuccessful attempt to set up a call between two connected communications terminals, which call-back order causes the central system controller to carry out an automatic call setting up procedure between the relevant communications terminals.

SUMMARY OF THE INVENTION

[0007] In accordance with the present invention, there is provided a method and apparatus to assist in the intermediation of telephone calls and meetings. The described embodiment of the invention is akin to a light on your desk that lights up when the person you are trying to reach is in her office and ready to take calls.

[0008] In this description, the person initially placing a request for a connection or call is termed the requester. The person he is trying to call, connect to, or meet with is called the target. It should be noted that the system of the target may end up calling the system of the requester in response to the requester's initial request. Thus, the terms requester and target refer to the initial requester and his target, and do not necessarily identify who ultimately places a call or initiates a meeting. Both requesters and targets are sometimes referred to herein as "users" or "parties" if such usage seems to improve clarity of an explanation.

[0009] In a first embodiment, a requester indicates that he wants to call, meet with, or otherwise connect with a target. Such a call, connection, or meeting is called a realtime meeting. His system sends a request to queue a call to the target's system. If the target is available and wants to talk to the requester, a connection is made and the users proceed with their communication. Otherwise, the request is queued until both users are mutually available (or until a quorum is mutually available if there are more than two parties to a meeting). In other embodiments, requests are always queued before availability is determined.

[0010] In a first embodiment, the system of the users communicate directly. In other embodiments, the systems of the users communicate by way of intermediate servers, by way of a central server, or by any other appropriate method. Telephone calls can be made via a telephone system (such as POTS, a wireless system, or a cell phone), via Internet telephony, or via some other appropriate mechanism. (In the case of cell phones, the cell phone can act as a data processing system 100, keeping track of availability through actions such as pressing buttons on the phone, speaking to the phone, knowing when the user is moving and how fast (i.e., the difference between walking and driving), knowing if the phone is on the user's body (body heat), eventually knowing the user's exact location, both to decide availability and to route calls to landlines in that exact location, if desired.

[0011] Each user can set up priorities for the people who call or contact him. Requests from high priority persons will preferably interrupt the user, even if he is on another call. Requests from lower priority users will be queued. Alternately, requests from high priority persons will be flagged. Users can also rate other users. In embodiments where rating is enabled, the user and system can use the rating of the caller to prioritize, accept, or reject the request. The user can see ratings based on

3

EP 1 127 444 B1

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his own entries or ratings based on everyone who has rated an individual.

[0012] If a user is unavailable when a call is received, a request is queued. For queued requests, the system determines which requests have mutually available users and indicates that those calls can be completed. Availability is preferably determined based on a variety of factors, including whether the user is typing at his computer, whether the user is physically in the room, and scheduled periods of availability for a user. The calls that can be completed can be ranked according to a priority determination. Priority is preferably determined based on a variety of factors including who desired the call, the relationship of the callers, user-specified factors, elapsed time since the call was requested, and anticipated call duration.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

Fig. 1(a) is a block diagram of the overall architecture of a data processing system in accordance with an embodiment of the present invention.

Figs. 1(b)-1(d) are block diagrams of data processors in accordance with other embodiments of the present invention.

Figs. 2(a)-2(f) are block diagrams of various exemplary network organizations that can be used with the present invention.

Fig. 3 is a flow chart showing a method for requesting and completing a realtime message (RTM) between a requester and a target.

Fig. 4 is a flow chart showing queuing a request.

Fig. 5 is a flow chart showing checking the queued requests.

Fig. 6 is a flow chart showing an exemplary main loop that processes events.

Fig. 7 is a flow chart showing additional steps of the main loop of Fig. 6.

Fig. 8 is a flow chart showing how to make a call, which is a specific example of conducting a realtime meeting).

Figs. 9(a)-9(c) show exemplary user interface on a target's system.

Fig. 9(d) shows an exemplary user interface on a requester's system.

Figs. 9(e)-9(g) show another exemplary user interface on a user's system.

Fig. 9(h) shows an exemplary dialog box that enables the user to inform the system when he has completed a call using a telephone.

Fig. 9(i) shows an exemplary dialog box that enables the user to place an Internet telephony telephone call directly from the computer without using the telephone.

DETAILED DESCRIPTION

General Discussion

[0014] The present invention may be implemented on a computer system, such as the caller's data processing system 100 illustrated in Fig. 1(a). It is contemplated that a person being called will have a similar system, as described herein. The data processing system 100 has at least one processor 102 and associated computer memory or computer storage 104. Memory 104 includes at least one software component 112 for implementing the tasks described herein. The described embodiments of the present invention may be performed when instructions contained in memory 104 or other appropriate memories are executed by the processor 102 or other appropriate processors. The system also preferably includes a database 106. Certain implementations of the system can also connect to a telecommunications system 116 to place calls (or can use Internet telephony via network connection 114).

[0015] Data processing system 100 also preferably includes a network connection 114, such as a connection to a LAN, a WAN, and/or the Internet or to some other appropriate network. System 100 preferably includes an input device(s) 118 such as a keyboard, touch screen, or the like. System 100 preferably includes an output device(s) 120 such as a printer, display screen or the like. System 100 also includes a computer readable medium 124. Computer readable medium 124 may be any appropriate medium that has instructions and/or data stored thereon. These instructions and data may be loaded from computer readable media 124 into computer memory 104. Instructions and data can also be loaded into memory in the form of a carrier wave, or by any other type of signal over network connection 114.

[0016] System 100 also includes an operating system (not shown). A person of ordinary skill in the art will understand that the memory 104 and computer readable media 124 may contain additional information, such as other application programs, operating systems, other data, etc., which are not shown in the figure for the sake of clarity. It will be understood that data processing system 100 (or any other data processing system described herein) can include numerous elements not shown in Fig. 1, such as additional data, software and/or information in memory, disk drives, keyboards, display devices, network connections, additional memory, additional CPUs or processors, input/output lines, etc.

[0017] In the discussion herein, it will be understood that the invention is not limited to any particular implementation or programming technique and that the invention may be implemented using any appropriate techniques for implementing the functionality described herein. The invention is not limited to any particular programming language, operating system, or network protocol. The system may use any appropriate type of telecommunications systems, including but not limited to POTS

5

EP 1 127 444 B1

6

(plain old telephone system), cellular telephones, wireless telephones, and Internet telephony.

[0018] Some or all of the instructions and data structures in storage area 104 may be read into memory from computer-readable media 124. Execution of sequences of instructions contained in the storage areas causes processor 102 to perform the process steps described herein. In alternative embodiments, hard-wired circuitry may be used in place of or in combination with software instructions to implement the invention. Thus, preferred embodiments of the invention are not limited to any specific combination of hardware circuitry and software.

[0019] In Fig. 1 (a), database 106 stores the request of one party to call (or meet with) another, along with various parameters and options about the desired call. Software 112 uses various metrics to decide if a party is available for a call, including explicit action (i.e., by the party running a program or invoking a function in a running program) and implicit measurements such as tracking keyboard and mouse activity, noise in the room, phone use, lights, door activity, motion sensors (and other devices used by security systems), "electric eye" etc. Computer network 114, for example, is a network connection such as the Internet or any LAN or WAN (or even modem calls) to allow some system (either one belonging to the caller or a central server) to determine that two parties that desire a call are both available or potentially available for the call (or until a quorum is available if there are more than two parties to a meeting).

[0020] Fig. 1(b) shows an alternate embodiment in which data processing system 100 is located between a telephone and the POTS system. Fig. 1(c) shows an alternate embodiment in which data processing system 100 taps into a line between a telephone and the POTS system. Fig. 1(d) shows an alternate embodiment in which data processing system 100 communicates with a PBX system via a network server. The network server communicates with the PBX system using the known CTI (Computer Telephony Integration) standard or another appropriate standard.

[0021] As discussed below, once a determination of mutual availability has been made, either of the users may take steps to initiate the call, either directly by computer control of the medium (the phone, or IP telephony or other media) or by informing one or both of the parties that the call should be made and asking one to manually place it (and the other to manually receive it).

Description of Certain Preferred Embodiments

[0022] The following paragraphs describe certain embodiments of the present invention that are part of a "The described embodiment" embodiment of the invention. The described embodiment of the present invention is akin to a light on your desk that lights up when a person you are trying to reach is in her office and ready to take your call.

[0023] In one embodiment, when Alice wants to call

Bob, she doesn't just pick up the phone and dial. Instead she picks up the mouse and clicks on Bob, or enters his phone number, E-mail, or other address. (Alternately, Alice can dial a standard telephone and her dialing is simply input to a computer following the processes described herein instead of direct signaling of the traditional telephone network). These actions will register a desire to talk with either Bob's server, the central server or a local company intranet server, depending on the embodiment.

[0024] In this example, Bob is running the described embodiment client too. Because Bob's client is hooked to his screen saver and other applications, it knows when he is at his computer. If he is, and ready for her call, then Alice might be told she can call right away. Bob's current number will pop up on the screen and she can dial it. With advanced phone systems, the computer might actually dial the phone or complete the call -- making it look to Alice just like a phone call: "dial" a number and a call is placed.

[0025] As they talk, Bob's and Alice's software clients are busy entertaining them and showing them ads. This situation is advantageous to advertisers because both are known to be present, and talking, but their eyes are free and drawn to the screen.

[0026] Preferably, Bob and Alice's computers know when Bob and Alice are finished. They may have an inexpensive hookup to the physical phone wires, or the computer's microphone may notice a lack of talking for a few minutes. Or they may manually click, to indicate they are done, and either leaving, ready for other calls, or want calls held for a while. It only takes one of them to signal the termination of the call. Signaling the end of a call usually means that the user is available, although in certain embodiments, it may be up to the user to signal availability.

[0027] The system knows when Bob and Alice are at their desks, ready for calls. As soon as both of them are there at the same time it notices, and gets ready to set up the call Alice wanted. Thus, the embodiment avoids phone tag and interruptions.

[0028] Figs. 2(a)-2(f) are block diagrams of various exemplary network organizations that can be used with the present invention. Fig. 2(a) shows an embodiment in which a requester's system 202 connects to a target's system 206 via a network 204 such as the Internet, an intranet, a wireless network, or some other appropriate network.

[0029] Fig. 2(b) shows an embodiment in which a requester's system 212 connects to a target's system 216 via a telephone system 214 such as POTS, a cellular network, a wireless network, or some other appropriate telephone system. The systems may communicate data through, for example, touch tones or modem transmissions.

[0030] Fig. 2(c) shows an embodiment in which a requester's system 222 connects to a target's system 226 via a network 224 and a telephone system 225. In such a system, messages about call availability might be sent

7

EP 1 127 444 B1

8

via the network while the actual connection for the call is made through the telephone system.

[0031] Fig. 2(d) shows an embodiment in which a requester's system 236 connects to a target's system 232 (or a target's proxy) via a network 234, but in which the requester system connects to the target only via a telephone. For example, the requester may not have a software client installed on his computer. The requester can still indicate availability by calling the target system or a central server acting for the target (or the requester) and entering touch tones. Alternately, a target system can be a specially adapted telephone.

[0032] Fig. 2(e) shows an embodiment in which a requester's system 242 connects to a target's system 246 via a network 244 and in which a central server coordinates the management of calls for the user systems. In at least one embodiment, the queue of waiting messages and databases for priority and sorting are located on the central server. Fig. 2(e) also shows optional servers connecting the requester and target to the network. These servers can be, for example, proxy servers, firewalls, backups, or directory servers for the target or requester.

[0033] Fig. 2(f) shows an embodiment in which a requester's system 262 connects to a target's system 266 via a network 264. At least one of the user systems 262, 264 have a primary server 267 and a backup server 268 for added redundancy and fault tolerance.

[0034] Fig. 3 is a flow chart showing a method for requesting and completing a realtime message (RTM) between a requester and a target. (An RTM is also referred to herein as a "call" because many embodiments of the invention, the purpose of the embodiment is to mediate telephone calls.) Examples of realtime messages include telephone calls, face to face meetings, and conference calls between two or more people. In element 304 of Fig. 3, a requester sends a message requesting a realtime meeting. This request is sent to one or more targets. Alternately, targets and requesters may be associated with each other in an arbitrary graph based on requests between parties. For example, user A may request a meeting with user B, and B may request to add user C. A11 three parties would become parties to the meeting.

[0035] In step 304, an RTM is queued in the systems of all parties (i.e., for the requester and target(s)). As users become available, their systems signal the other systems of this availability. Similarly, if users become unavailable, this is also signaled.

[0036] In element 306, if there is mutual availability for the parties (or for a quorum if more than two parties), the users are so informed and allowed to initiate an RTM. In certain embodiments, the system initiates an RTM without user intervention when mutual availability is determined. In element 310, upon successful completion of an RTM, the RTMs are dequeued for the requester and the targets.

[0037] Fig. 4 is a flow chart showing queuing an RTM request. The queues generally reside on the user's systems. In a system with optional servers, if a user system

receives an RTM request from user A to user B, the system looks up servers that handle requests to call user B. In element 406, if the system of user B does not accept the call, the system informs user A that the RTM request is denied. Otherwise, in element 408, the RTM request is recorded on user A's server and the system asks B's servers to record an RTM request from user A.

[0038] Fig. 5 is a flow chart showing checking the queued RTM requests. A user might not accept a request by user choice or preprogramming. In element 502, the system finds the queued RTMs that are for users who are mutually available. Mutual availability means, at a minimum, that both users are present and available to talk to or meet with each other. Various embodiments of the present invention use various criteria for determining availability. For example, availability events can include but are not limited to:

- Start or end of call or other use of phone.
- Off-hook: Unavailable
- Recently off-hook: Probably available
- Recent activity at computer input devices (mouse, keyboard etc.)
- Probably available
- Conversation near microphone
- Available but possibly in meeting. Possibly Available after conversation stops.
- Lights turned on/off (based on time of day)
- Possibly available if lights turned on recently and still on. Not available after lights off outside daylight hours
- Weight in chair or on floor
- Possibly available if sitting in chair
- Motion sensor triggers/stops triggering
- Available if recent motion sensed in room (others as needed)
- Opening/closing of door
- User may configure "door closed" as a signal of unavailability.
- Spoken commands
- Simple voice recognition (closest match) on phrases such as "hold calls" etc.
- Computer keyboard/mouse based commands
- User may of course set availability state, or even browse pending calls using computer interface
- Touchtone commands
- If system is able to listen to DTMF tones from phone, users may prefer to use these to substitute for computer commands.
- Remote access touchtone commands
- If user is not at desk but using remote phone interface, touchtone codes (and caller ID information from incoming call) to control system, change location, set availability status.
- Scheduled periods of availability
- User may have default periods when they are always available unless they signal otherwise or metrics signal otherwise. The system may determine his avail-

9

EP 1 127 444 B1

10

ability by reading the user's calendar.

[0039] In certain embodiments, availability can take several states, which interact with request priority. In addition, availability to a given party generally requires that there is not another party or parties for whom simultaneous availability is also present when the RTM with that party or parties is of higher priority.

[0040] Certain embodiments allow requesters and targets to specify their availability during a predetermined time period, such as the estimated duration of the RTM.

[0041] Once availability has been determined, mutual availability is determined. Mutual Availability communication and determination depends on combination of all user's privacy rights and demands for the particular communication. Options include but are not limited to:

1) Party always sends any change in availability status over network to other parties for whom an RTM request is queued. Both systems immediately detect mutual availability, and move to call-setup negotiation

2) Party does not send availability changes, but queries remote availability for parties in RTM request queue from time to time or on change of status

3) Party transmits availability changes and status to trusted 3rd server. So do other parties. 3rd server detects mutual availability and informs one or both parties.

[0042] In all cases a proxy server may act for a direct user, and polling may take the place of "push" transmission of status/availability information. Availability status is user-specific. A user may be available to one person but not to another. Transmission of state information may be one-way, i.e. one party may be willing to tell the other of state, but not expect reciprocal information. Normally the party desiring the call will reveal state, and the recipient will hide it unless specified otherwise. Queries, if made, may be anonymous or identified. Users may reject anonymous queries, and keep records of identified queries.

[0043] Any program hooked into the screen saver interface knows when a user is using his computer. If the user is using his computer, he is presumed to be in his office. And unless he does a simple click to asks to hold his calls, he is ready for calls. Other simple hardware can look into other clues, such as sound, or the lights being on. For the serious user, small pressure sensors in chairs or a pair of photocell door sensors could do the trick. Or the user's receptionist can track when he is ready for calls, as human assistants normally do.

[0044] If the user forgets to hold calls, his first call does not need to actually ring. It rings on the computer and pops up a window to ask if the user wants to engage it (see Fig. 9). The user can either do that, or hold calls as

if he isn't in the office.

[0045] In element 504 of Fig. 5, the system sorts the messages having mutual availability in accordance with a message priority. These priority sorting factors can include, but are not limited to:

- Who desired call
Calls the user initiated are normally more important than ones others initiated to the user.
- Relationship (customer/supplier/family/friend/colleague etc.)
Calls with customer more important than suppliers. Calls with family/friends may be higher or lower in priority than others. Boss gets more priority than subordinates etc. All user tunable. For customers, level of service customer has purchased or other factors related to importance of customer may also factor in.
- Manually input priority factors (both users, both per call and per user)
User may specify default priorities for different people.
User may also examine screen of pending queued calls and alter their priority.
- Elapsed time since RTM requested
The longer somebody has been waiting for a call since asking for it, the more important.
- Expiration time on RTM request
If the caller indicated the call needs to take place before a certain time, the closer it gets to this time the more important it is.
- Expected remaining time of availability
If one party indicated they will only be available for a limited time, such calls are more important.
- Anticipated call duration
If the call is expected to be short, it may get a higher priority.
- Past history (call difficulty, truthfulness, call frequency)
Parties not called frequently may get more or less priority.
Parties that have lied in providing call information may get much less priority. Parties with a history of the period between call queuing and initiation being long may get a higher priority. ("hard to reach people")

[0046] The system can be programmed to treat different people differently. Some can get through when others cannot. A user's family might get through any time their request has a priority of urgent. The user's co-workers and key customers might have higher level access. Cold callers would have to identify themselves, and say what the call is about. That text would appear on the screen before accepting a call.

[0047] Cold calling stockbrokers might willingly identify themselves that way because anybody who lies more than a few times about their purpose in calling could become blacklisted in the ranking database (see for exam-

11

EP 1 127 444 B1

12

ple Fig. 9(c)). If they try to call anybody at all, the fact that they are blacklisted will be featured prominently for the user to see before deciding to accept. Thus, while the user can use the described embodiment in a very simple fashion, to be in or out, if he wants to, he can also finely tune it to be in or out for different classes of people at different times.

[0048] In element 506 the system negotiates a call with a highest priority party. In element 508, the system places the call (or indicates a willingness to receive and waits for the target/system to place a call).

[0049] Figs. 6 and 7 are flow charts showing an exemplary main loop that processes events. The Server Main Loop preferably includes the following:

- Receive requests and status information from outside servers
- For those servers that can't push, or which haven't made contact in long period, poll at suitable polling interval
- Do polling based checks on user availability. (Also receive and respond to event based information about availability)
- Detect when both parties are available for call.
- Send status change information to secondary servers, and partner servers enabled for this information.

[0050] The events processed by the server include but are not limited to:

- User is available for a call-out
- User is unavailable
- User ready to be called
- Target now unavailable
- Target is available
- Target soon available
- Incoming RTM request
- Change an RTM request
- Overt availability request
- Call denied
- Synch request (from other server for user)
- New data from server

[0051] Fig. 8 is a flow chart showing how to conduct an RTM (for example, how to make a telephone call). In element 804, the system determines who should initiate the call and determines the medium to be used for the call. The described embodiment can also easily resolve problems of who calls whom. Traditional phone tag puts the cost of a call on whoever was "it" when the calls clicked, and business usually accepts this. But if desired and mutually agreeable, the system can be configured so that the person who first requested the RTM is asked to make the call. Or perhaps the supplier always pays for the call, even if the customer initiated it, like an 800 number. Perhaps the person with the most annoying call screening initiates the call, or the person for whom it is most convenient.

[0052] In some cases a user might not want people to even know his phone number. In this case he would ask to always make the call. In one embodiment, the parties request a central server associated with a telephone company to create the call by having the telephone company call both of the users and hooking them together, somewhat like a conference call. Thus, neither needs to reveal their telephone number. Alternately, the user might be at a phone booth, or hotel, or foreign telephone and have a hard time making, or receiving calls. He might not even be at his normal number. He might be on the road, and tell the system his temporary number using its telephone or web interface. Then calls could be sent to him at his current location, even if the caller entered his "base" phone number when dialing.

[0053] In element 806, the user's system initiates or waits for a call. While waiting, it continues to receive events. If it initiates and the call fails in element 812, the user system sends a notice of the call's failure to the other party's servers and to the central server. Otherwise, the system waits for events (see Figs. 6 and 7). Certain embodiments may also display advertising or update status windows during a call.

[0054] In element 808, when the call ends, the system signals the end of the call to other servers and dequeues the call from the pending call list. Certain embodiments also log the call. In certain embodiments, the system also must explicitly state that its user is available.

[0055] Figs. 9(a)-9(c) show exemplary user interface on a target user's system. Fig. 9(a) shows an exemplary dialog box stating that a particular user ("Bob") has requested an RTM (call) with the target user. The target may decide to accept or reject the call. Fig. 9(b) shows an exemplary dialog box resulting from a request from a high priority user. In such as case, the message may appear on the target's screen even when the target is busy or not available to regular users. Fig. 9(c) shows an exemplary dialog box resulting from a request from a user who has previously been rated as untrustworthy (either by this target or by the community in general). His rating is displayed along with a notice that he desires a call.

[0056] Fig. 9(d) shows an exemplary user interface on a requester's system. In this example, the requester had previously tried to contact Bob, but was unsuccessful. Now Bob has become available. The requester can accept or reject the call with Bob.

[0057] Figs. 9(e)-9(g) show another exemplary user interface on a user's system, where the user is both a requester and a target for different ones of a plurality of RTMs. The display of Fig. 9(e) is preferably displayed on a user's system most of the time. The display shows the status of requests for RTMs that have been sent to or by the user. For example, if the user has been out of the office or otherwise unavailable, RTMs have been queued in his absence. The display includes, for each request, a status of the requester (e.g., in, out, or unknown); an age of the request; the name or identity of the requester,

13

EP 1 127 444 B1

14

a priority of the request, a reason for the request (if provided by the requester) and information that the system knows about the requester (e.g., telemarketer (93% probability)). In the box of Fig. 9(e), an incoming call could cause the specified caller to blink and be moved to the top of the display, along with ringing-style sounds. Alternatively, the specified caller could pop up in a dialog box allowing confirmation that the call should be accepted.

[0058] Fig. 9(f) shows a dialog box that preferably is displayed when the user returns to his system and potentially becomes available (as determined by the system or as indicated by the user). This box (which could also include advertising) shows the number of requests for RTMs by the user that are pending, the number of requests for RTMs from other users to the user that are pending, and the number of users (both targets and requesters) that are available, unavailable, and unknown. In the described embodiment, the user may indicate that he wants to 1) become available immediately, taking the top priority pending request for RTM, 2) remain unavailable, or 3) remain unavailable, but decide to conduct some of the pending calls/RTMs. If the user conducts RTMs (makes calls or arranges meetings) he can dial these himself or he can let the system dial. As mentioned above, the user may initiate an RTM when he is the requester or when he is the target, as long as there is mutual availability between the target and requester. Preferably, if the user does not respond to the box in a predefined period of time, a default action configured by the user, such as remaining unavailable, is taken and the box removed.

[0059] Fig. 9(g) shows a dialog box preferably displayed when the user conducts an RTM (places a call or arranges a meeting). The dialog box shows one or more of the following, although it will be understood that other information or less information could also be displayed: that the user called (or that the other party called if appropriate); the call duration, the local time and remote time (e.g., PST and EST); the date of the last call with this user; the total number of calls with this user; the reason for the call (if provided) and other information about the other user from local databases. The dialog box also preferably includes call billing information, a link to the caller's web page, and the status information shown in Fig. 9(f) about pending calls.

[0060] In addition, the dialog box of Fig. 9(g) preferably includes buttons that let the user decide whether to end the call and take the next call (checked only at the end of the call); change the class of the call; end the call and hold calls; rate the caller (e.g., untrustworthy or high priority); change the type identifier of the call; configure special parameters for the user or the call; customization of the look and feel of the interface or other aspects of the software 112; and phone controls (if connected to a PBX via the CTI standard). The dialog box also preferably displays a picture of the caller.

[0061] Fig. 9(h) shows an exemplary dialog box that enables the user to inform the system when he has com-

pleted a call using a telephone. The user is preferably also prompted with information to help place the call.

[0062] Fig. 9(i) shows an exemplary dialog box that might occur when placing an Internet telephony telephone call directly from the computer without using the telephone.

[0063] The following paragraphs provide additional information about the above-described embodiments and additional embodiments of the present invention.

Call-Waiting

[0064] Not only can trusted people get through when the user is holding calls, they can even get through when he is on the phone (see for example Fig. 9). This embodiment tells the user who the caller is, and allows in most cases a quick text message or reply, similar to instant messaging, implementation of which is known to persons skilled in the art. In at least one embodiment, no beep sounds and thus, a person on the other end of the phone during a currently occurring telephone call does not know that another call is available to the user.

Not just phone calls

[0065] The described embodiment can also schedule face to face meetings in larger organizations, when two or more people are ready to meet, and want to do it as soon as all of them are in the office and free for a meeting. The embodiment notices this and gives them all a message to attend the meeting.

IP Telephony

[0066] If the user wants to use IP telephony (particularly over corporate intranets where it can work reliably, but also over WANs), the described embodiment knows whether both parties have such equipment, what quality of equipment they have, and whether they desire to use the equipment, and can arrange such a call. In some embodiments, it can actually make the call.

Netmeeting and Videophones

[0067] The described embodiment's database knows whether both parties have things like Microsoft Netmeeting or other data collaboration tools, and in particular if they both can send and/or receive video phone calls. If so, it can call Netmeeting for a shared whiteboard and other shared applications, and initiate a video call either on its own or to go with an ordinary phone call. Currently, nobody uses video phone calls because it is too much work to know if the other person has the equipment and set up the two ends simultaneously. The described embodiment can let the computer worry about all this.

15

EP 1 127 444 B1

16

Out of the office

[0068] In certain embodiments, paying customers could get a remote, touch-tone interface, so that they can declare themselves available to be called at a remote number. Instructions can be left as audio files. With voice recognition or touch-tones, more complex directions could be given. Depending on how much they are trusted, users could also be led through the "try and find you" chain. The described embodiment could also control such systems, attempting to find the user and remembering when the user is located.

Privacy

[0069] Certain embodiments provide mechanisms to control the flow of personal information (such as when a user is in a specific place, such as at the phone.) Some parties will receive live updates of this information, some will not. Other embodiments allow the user to configure how much information can be sent to particular other users and when. For example, unknown other users would be classed as strangers, but some users might be classed as co-workers, family members or "intimates" of various levels. Such intimates would receive messages about the changes in status of the user regardless of whether they initiated the call request or the user did. Some intimates might even be able to query status before making a call request.

[0070] Normally strangers requesting calls would not be given information on the target's real time availability. Instead, they would send the target their own availability information, and let the target's system decide if the parties are now mutually available. Some embodiments will provide an interface for users to easily change the properties of callers and targets, particularly when a call/RTM is pending. Certain embodiments require a requester to provide a password before the target system will accept a request for an RTM.

Mistakes

[0071] Software 112 will make occasional mistakes about a user's availability. In a system that automatically determines availability, for example, if the user leaves his desk, it will take it a few minutes before the system decides that the user is gone and no longer available for calls. A few such calls will get through, but the other user can always call back.

[0072] From time to time, for people not on trusted lists, there will be race conditions, where A approves the call of B at the same time B is setting up a call with C. Reasonable system response times will cut any time wasted by this to a minimum.

Embedding

[0073] Preferably, software 112 is embedded in the

screen-saver information-push tools, such as Pointcast, Backweb, Wayfarer, Netcaster, Netmeeting, and Active Desktop. Preferably, software 112 is also integrated with computer telephony systems, so everything is controlled by one system.

Call Centers

[0074] Call centers for customer support can use the present invention. Instead of keeping users on costly 800 number hold, the users could request RTMs intermediated by the user with the call center personnel. As soon as a customer rep was available at the call center and the user needing help was also available, the call would be placed.

[0075] Call centers, thus, market or distribute the basic client software 112 to their own customers. Imagine the hold music at major companies saying, "Tired of waiting on hold? We don't want to make you wait. Download our client today and we'll call you when it's convenient for you."

Please Hold

[0076] Indeed, the present invention might eliminate the words "Please Hold" from the vocabulary at least for long-term holds. Instead, the requester would make his request for an RTM, disconnect and re-connect when both parties are ready. This use is especially effective with new phone methods like ISDN and IP telephony that have very low (under 1 second) call dialing and connection times. Integration with call center systems, and PBX computers can make the process almost invisible to users of those systems.

Components of a real-time multimedia meeting (RTMM) facilitation system

[0077] An RTMM is typically a telephone call, but may be a real life meeting, video-call or a digitally intermediated meeting (chat, shared whiteboard) or any mixture of the above.

a) A collection of recordings of the desire for one user of the system to have a one-time RTMM with one or more other users of the system. This collection may be centralized, or stored with "client" components of the system associated with the users, or a mixture of these.

b) Metrics to determine whether a given user of the system is ready and available for an RTMM, or an RTMM with specific other parties. These can include both direct input of desires or other status by the user to a software system, data gathered by observation of activity on the user's computer system, telephone or other electronic tools in the possession of the user, or data gathered from transducers associated with the user, measuring such things as sound, the pres-

17

EP 1 127 444 B1

18

ence of lights, the presence of weight on the floor or in a chair, or motion or physical presence as detected by motion sensors or cameras. The use of the system itself to arrange RTMMs also provides such a metric.

c) A central server to which these metrics are communicated, particularly when they change, so that the server can compute when all the parties to a desired RTMM are present, available and willing, and initiate the RTMM. Alternately an ability for local clients to connect directly with the systems of other users to communicate the metrics, compute whether the time is right for a call and initiate the RTMM.

d) Systems to initiate an RTMM, either by informing users it is now appropriate to make a specific telephone call or RTMM initiation (and possibly providing information on how to make the call), or actually initiating the RTMM through media such as computer-controlled phone dialers, computer controlled telephony, computer based telephony, or computer based or controlled digitally intermediated meetings.

e) Systems to detect the end of an RTMM, either with metrics or input from the user, to alter the availability status of the users. In addition, upon successful creation of an RTMM, the recorded request for the RTMM is marked as having been acted upon, and is removed from or no longer active in the database.

f) Systems to allow users to exercise control over their availability for an RTMM with different other users or classes of users, and to optionally confirm desires before meetings are initiated.

g) Systems to record preferences of users regarding who should initiate and/or pay for manually set-up RTMMs and other policy matters, and to broker these decisions, as well as preferences for types and times of meetings to broker these decisions as well.

Some example of certain preferred embodiments

[0078] Alice (A) wishes to call Bob (B), but B is not available. When they are both simultaneously available (and don't have a higher priority call pending), different things may happen, depending on their relationship.

a) A and B are close associates

A is informed, and the call is initiated, normally by A. B's computer does display that the call is coming, but may not know about it until the phone rings.

b) Two less close associates:

B is informed of A's desire to call. B either confirms and the call is initiated. If A is to call, A will be informed B is available and will place the call. Otherwise B calls, and A may not know about it until the phone rings. A may also indicate she is not ready, and delay the call. B is informed of this briefly and the call waits for A to reverse this.

c) A and B are strangers

B is informed of A's desire. B may elect to delay the

call, in which case A is not informed until B reverses this. B may refuse the call request, in which case A is informed, and perhaps gets a message stating the reason, or a suggestion about what to do to get accepted.

d) B may also discard the call, which means as far as A is concerned the call remains active until some "expire" time set by A, when unfulfilled calls vanish. A will probably figure it out.

e) A is a type of caller (phone solicitor) that B does not take calls from.

A is told immediately that the call is not accepted, but warned that misrepresentation may cause revocation of the right to make calls or requests

f) A declares the call to be urgent

If A is the sort of caller who can make such a declaration, B will be informed, on screen, of the call even if not totally available (i.e. in a call or meeting, or screen saver is active)

g) A is very close to B

If A is family or some other close relationship, A may be able to access information on B's status, for example how long it has been since B was available, whether B is in a call and perhaps even whom B is talking to.

Who pays for the call?

[0079] This preferably is determined by several factors:

- Who wanted the call?
- All other things being equal, the person who wanted to originate the call would dial the call and pay for it.

Additional details

[0080] A user might also have his computer screen calls and let in only the calls it has queued for him, either with caller-id or asking user to enter a couple of touch-tones (they were given them when their computer ok'd that it was time for the call).

Computer intercepts incoming calls

[0081] The user's computer (presumably via voice capable modem) intercepts incoming calls. Delivers voice message, waits for touch tone codes.

a) If currently about to make call:

Indicate this, ask to queue, provide code for urgent over-ride (Detect caller-ID of expected call just in case).

b) If currently expecting a particular call

Indicate this, ask to enter code number for that call, or user caller-ID to identify user. Otherwise request caller hang up and queue their own call now or later. Allow urgent over-ride.

19

EP 1 127 444 B1

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- c) If not currently expecting or making call
Explain The described embodiment system. Accept permanent access codes or caller ID of known parties if available to them, and put such calls through. Otherwise tell caller how to queue a call.
- d) If caller doesn't have computer, allow queue via touch tone, or assist in screening call.

Finding a server after entering ID of party the user wishes to call

[0082] If the local (optional) server is known from name, the system attempts to contact it. It does a DNS lookup to find codes for secondary servers, and attempts to contact them. It contacts a master server for information on what server to contact. Any server preferably can redirect attempt to another server.

For meetings instead of calls

[0083] Simply send instructions to all parties to meeting that it is time to meet, rather than initiating call

Multi-party calls

[0084] Await availability of all parties or all key parties plus some fraction of secondary parties. Then initiate meeting or conference call.

Forward-on-busy call forwarding

[0085] Second number receives call and uses caller-id info and other call screening techniques to duplicate screening process. This function may be at a central server rather than facility run by the user. An Emergency code can cause computer to inform user of emergency call.

Call Initiation types

[0086] System knows what sort of equipment each end of the call has, and the current situation of each party. These parameters affect how the call is actually brought about. The parties confirm initiation or accept automatic initiation based on preferences and per-caller/callee preferences. While computer dialing is preferred if available, the user may elect to use manual dialing. If computer reception in place, automatic dial handles it automatically).

Computer reception vs. personal reception vs. receptionist

[0087] A party may answer own phone, or have computer device answer the phone as described above. A human or electronic receptionist may also screen call and know when to forward to receiving party. IN a similar way, the system knows the preferences of its user and uses one of an ordinary analog phone, digital (voice over

IP etc.), or video.**

Both parties call central "conference" system.

[0088] If both parties are unable to easily make non-800 calls or place calls at all without great expense, a central hub may be used. This hub may have 800 numbers for the two or more parties to call (a traditional conference call center) or may be able to call the parties, if billing arrangements are possible. Example -- overseas locations where calls to USA are expensive but calls from USA are much cheaper. A central system calls both parties (or all parties) and connects them.

15 Pager

[0089] Pager number or e-mail address is made available. A call is initiated by paging/requesting party who then calls other party or call center.

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Call Center Version

[0090] Unlike single system, calls can be directed at a pool of several possible recipients. First available recipient handles call, removed from queue immediately so that others will not handle it. Ability to receive availability/scheduling information for the call center staff from call center's own computer systems. Additional priority factors -- customer service level, time spent on hold etc. Callers actually on hold intermixed with queued calls.

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General Comments

[0091]

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a) The basic implementation of software 112 involves messages. Each system, both servers and clients and sub-servers, would normally wait for events, and then act on them. Events would include making a request to queue an RTM/request, and changes in the availability of a calling or called party. Events also include changes in information that determine the availability, and of course all the events of a call -- attempting connection, reconfirming availability, making the connection (ie. live audio or meeting) and then closing down the connection.

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[0092] However, it may be necessary in some cases to "poll" for status rather than simply accepting events that change status. For example, if Internet filters, proxies, or firewalls make receiving incoming messages impossible, a client may have to poll every few minutes to check status. (This is quite common in Internet "push" clients.)

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one embodiment involves two software clients, which talk directly to one another once they have figured out where they are on the Internet. However, in practice, intermediate servers can be used for the following purposes:

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21

EP 1 127 444 B1

22

- a) To map a human name or phone number to the current Internet address for the person to be called.
- b) To deal with changing Internet addresses (due to DHCP dynamic host configuration) or to deal with shared Internet addresses, as when network address translation is used.
- c) To broker status and connections between strangers
- d) To record records on users, ie. so that one user may brand the other a liar if they called with a false opening message
- e) To proxy connections to users behind firewalls.
- f) To allow polling by users behind such firewalls
- g) To receive advertising control information on the free client.

[0093] In certain embodiments, servers would include the "main" servers run by a central company, and proxy servers run by corporates who buy that software. Generally calls between strangers (two people who have never called one another) would start through a central server. Once parties know one another, it may be possible to call without the central server if they have static network addresses. If they have a dynamic or not permanently connected address, they may need to use a central server.

[0094] A call can still be rejected even when both parties are generally available. This is to protect the users' privacy. If a stranger calls a user, the stranger doesn't normally find out whether the user is available or not. Rather, the user can see whether the stranger is in or not (the strangers send the user a status change message) and then when the stranger is available and the user is ready for a call, the call gets made. On the other hand, a user may have an accidental signal of availability or unavailability, and want to reverse it. In this case, the user's system sends out availability and the called party sends back its time for a call. At that time the user may decide to abort. If the user decides to abort often, it gets noticed by other users and affects their rating, much like a person constantly ringing your phone when you are not in who leaves caller-id records.

[0095] As noted, the technology while focused on the telephone call really arranges any sort of real-time "meeting." That includes face to face meetings. I.e., A user can request a meeting with his boss. When both are available, both systems notify the parties.

[0096] In certain embodiments, when a software client is initialized, it checks in with its server. There it can find out if there is a new client update available for the user, and download any new ad information. The client's basic state as being "up" is recorded by the server so the server can know to send it events as time goes by. Normally the connection would not be permanent though firewalls may force it in some instances. If the client uses a sub-server, that server is normally in charge of informing the master server about things. One reason to check with a sub-server is that this server will have been receiving state

change information on parties for whom the user has queued calls while the user's client was down. The startup can sync this information if it's available, and update the user's system information.

[0097] RTM requests may come in directly, or may come through the server the client is connected to. RTM requests from strangers normally come in this way, to avoid disclosing private information to the stranger. In addition, servers may be used to anonymize communication, ie. both parties talk to the server so neither one (or anybody snooping) gets to see who is talking to whom. [0098] Clients normally tell the central server they are going down (unavailable for future messages until further notice.) However, they will ping every so often, and a server that doesn't get pings will record the client down. Servers also have backup servers. If they go down, clients know to use the backup servers. When a server comes back up, it signals the servers that were handling its load, and they synchronize data and pass the load back to the server.

[0099] The actual sequence of a call is broken down into the following subtypes:

- a) A calls non-intimate B, but B is not available. A now regularly informs B of any changes in status. If B's system notices A is available, and B is available, B's system tells A it is time for the call. The systems decide who will actually call, and call is triggered.
- b) A calls intimate B. Now A and B both inform the other of any change in status. The newly available caller will, in sending the new status, indicate it wants to start a call, and systems will go into deciding who will call and the call is triggered.

[0100] If call is over computer net, it is negotiated there. If the call is over POTS, computer net and POTS net work together. A dialer (not always the same as requester of the call) makes call. This either happens because the Dialer's computer is able to make the call (i.e. a modem or CTI) or the dialer's computer pops up a message saying, "Now dial xxx-xxxx, and ask for Mr. Jones". The Dialed party's system goes into a waiting state. If it controls a modem answering the phone, it waits for the call. The call, when it comes in, will issue touch tones to get through. Other callers who sneak in during this period can get diverted in some fashion (a short message and disconnect). If a user is answering his phone and system can't detect this, one of the users has to click that the call is active (or if they don't click anything after a while, it's assumed to be.) During all this, both callers are unavailable to others except those who can interrupt.

[0101] During the call events can still come in and be processed. The only one that is special is the request for interrupt, which can come from intimates who are enabled to do this, or those who declare an emergency. (Such declaration usually must go through central servers so it can be tracked to determine the trustworthiness of the user.) An interrupt doesn't stop the call but does

23

EP 1 127 444 B1

24

pop up a message saying a caller wishes to interrupt. This may include text from the caller. The user can then accept the interrupt (much like call waiting) or deny it, possibly replying with some text.

[0102] A call failure (no answer) indicates the recipient is probably not really available, even though they are signaling this. This will cause their computer to flash (and even speak) a message asking the user to update their status. If the user doesn't respond, they will get marked unavailable. Especially if there are other clues to assist, like along idle time. This leaves a window on the screen to indicate the change when they come back.

[0103] When a user is unavailable (for example their screen saver has turned on) then when they return and touch the computer they will be on the path to being available. However, they will not generally be marked available to all immediately. A small window may pop up saying, "Do you wish to be available now" which will let them say yes, no, or click on callers to which they will be available.

[0104] However, if they have calls pending from intimates, those intimates may get a message of "pending availability", which they can use to decide if they want to urgently request a call, even before the user had had a chance to look over their call queue.

When one user is not at a computer

[0105] In at least one embodiment, RTMs (mainly telephone calls) can be made where one of the parties is not at a network-connectable computer, or is not even a user of the system. Users registered in the system who normally use it from their "base" computer may be away from the system but still wish to use it to intermediate telephone calls. (Away from the system it is less likely to use it to arrange meetings.)

[0106] This can take place in a variety of ways, among them:

a) The party can, while using a computer, enter a schedule of both availability, and the telephone number at which the user will be reachable. For example, they might specify that for some or all callers, they will be available by at a cellular phone number either at specific times, or all times that they are away from a network connected computer. They might also schedule times to be available at a home number or remote numbers or even hotels.

b) The party might reach a general computer which has a web browser, and, using an access code, use general web pages associated with either central or proxy servers or their client to change and update their status and schedule and phone number. An "applet", using the Java system, might well provide them with much of the interface they are used to, even at a remote computer.

c) The party might call into to their own computer (if it answers the phone) or a central server. Once called

in they could, through the use of touch-tones or voice recognition, give commands to alter their status and location for some or all other parties. If possible, they might do this simply, communicating the phone number they are at through the use of Caller-ID or Automatic Number Identification (ANI) to an 800 number. In this case, availability would be triggered shortly after hanging up this control call.

[0107] If calls are made with other parties who are at network connected computers, the other parties will provide signals to the system, to be sent to whatever system is controlling the user's calls, about when the user starts and ends calls with whom. If the user has a call with another party who is also not at a network connected computer, the system will either have to be told with another call that this call has ended, or simply have to guess. In such circumstances, the use of a central server which calls both parties and connects them has advantages.

[0108] When a user calls in to update status with touch tones, they may also be able to hear, with computer generated speech, their pending calls and priorities, and control what order they are performed in. Eventually it is hoped that cellular telephones in particular will provide native support for call intermediation using the present invention.

Non-users (non-members):

[0109] It is also necessary for telephone calls to take place between users ("members") of the system and non-users. While non-users are encouraged to join the system and run the necessary software, this is not a requirement. Non-users can participate in several ways, among them:

a) The non-user can become a temporary user by visiting a web page, and requesting calls with "member" users. The web page will feature buttons for the non-member to indicate their availability status. This web page, if left on the screen, can be used for this purpose, updating every few minutes using automatic mechanisms.

b) The non-user can download and run an "applet" in a web page using a system like Java. This applet can perform almost all the functions of the regular client, though it will not have access to machine information such as keyboard idle times to determine the non-member's availability.

[0110] Users satisfied with this level of control could actually become members through such an applet or full Java application.

c) Non-members, who would call members in the ordinary fashion, may have their call intercepted immediately by the member's client. This client could

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EP 1 127 444 B1

26

either pass calls through if the user is available and has no call pending, or it could intercept the call and perform a semi-traditional "voice mail" service to allow the caller to leave a message. This greeting message would probably instruct the caller how to use the system as a non-member or member, by directing the caller to a web page with such information.

[0111] The system could also accept touch tone or voice commands from the user to allow the user to enter a phone number or name. Caller-ID or ANI could also be used to extract this information. A call could then be queued in the system requesting the member to call the non-member when the member becomes available. It is also possible that the non-member could, using such inputs, specify times of availability, though the interface for that would be complex for an untrained non-member. (ie. "Enter the number of minutes you will be available at this number, followed by the pound sign.") Of course, as noted, the caller could just leave a message, which the member could access either with a voice-mail style interface or ideally over the computer using their client.

d) The operators of the central server could also offer telephone numbers (800 number or otherwise) for non-members to use in calling the member. These numbers could feature routing of calls to the member if the member is available, or special voice mail functions such as above. In these cases, when the non-member is not at a computer, obviously information about when the non-member is available or not is limited. The system may be forced to work with guesses. However, if wrong guesses are made, and calls fail due to busy signals or no-answers, a member can record the failure to improve the guess on the non-member's availability.

[0112] In summary, the described embodiments of applicant's invention allow users to efficiently arrange RTMs, including but not limited to, telephone calls and meetings with a minimum of wasted time and effort. The embodiments described herein are presented as examples only, with the scope of the invention being represented by the following claims.

Claims

1. A computer-implemented method for the intermediation of real-time communications between a requester and a target communicating to each other by means of a requester system and a target system, respectively, said method comprising the steps of:

receiving (302) a request from a requester, said request indicating that the requester wants to conduct a real-time communication with a target;

determining an availability status of the target, said availability status indicating whether the target is currently available for the real-time communication; and

queuing (304) the request if the target is not available;

wherein, for each queued request, the following steps are performed:

determining an availability status of the target of said queued request, said availability status indicating whether the target is currently available for the real-time communication; and

determining an availability status of the requester of said queued request, said availability status indicating whether the requester is currently available for the real-time communication; and taking (308) steps to cause the real-time communication to occur as soon as the requester and the target of said queued request a mutually available;

said method **characterized in that:**

the availability status of the requester is determined by means of monitoring computer usage for checking whether the requester is physically present in the vicinity of the requester system; and

the availability status of the target is determined by means of monitoring computer usage for checking whether the target is physically present in the vicinity of the target system.

2. The method of claim 1, wherein the target system is polled to determine the target's availability.

3. The method of claim 1 or 2, wherein the requester system is polled to determine the requester's availability.

4. The method of one of the preceding claims, wherein a plurality of requests is sent to a plurality of targets and mutual availability is determined when the requester and at least one target is available.

5. The method of one of the preceding claims, comprising:

reviewing the held requests to determine whether the requester and the target are mutually available.

6. The method of one of the preceding claims, wherein a request having the highest priority is determined (504) by sorting on one or more of the following factors: who desired the call; relationship with the target or requester; user-specified priority, factors; elapsed time since the real time communication was requested; expiration time on the real time communication request; expected remaining time of availability; and

27

EP 1 127 444 B1

28

anticipated call duration; past history; difficulty of reaching requester.

7. The method of one of the preceding claims, including if the target is physically present, displaying at least one request identifying a requester that had previously requested a real time communication with the target. 5
8. The method of one of the preceding claims, wherein the real time communication is conducted using a telephone. 10
9. The method of one of claims 1 to 7, wherein the real time communication is conducted using Internet telephony. 15
10. The method of one of claims 1 to 7, wherein the real time communication is specified as being a face to face meeting. 20
11. The method of one of the preceding claims, wherein a determination of whether the target or requester is physically present is made by checking one or more of the metrics of computer usage: recent activity at computer input devices; computer keyboard/mouse based commands; and touchtone commands. 25
12. The method of one of the preceding claims, further comprising: 30

allowing the target to rate callers and to filter callers based on his own previously assigned ratings.

Patentansprüche

1. Computerimplementiertes Verfahren für die Vermittlung von Echtzeitkommunikationen zwischen einem Anforderer und einem Ziel, die miteinander durch ein anforderndes System bzw. ein Zielsystem kommunizieren, wobei das Verfahren die Schritte umfaßt: 40

Empfangen (302) einer Anforderung von einem Anforderer, wobei die Anforderung anzeigt, daß der Anforderer eine Echtzeitkommunikation mit einem Ziel führen möchte; 45

Bestimmen eines Verfügbarkeitsstatus des Ziels, wobei der Verfügbarkeitsstatus anzeigt, ob das Ziel momentan für die Echtzeitkommunikation verfügbar ist; und 50

in eine Warteschlange setzen (304) der Anforderung, falls das Ziel nicht verfügbar ist; wobei für jede in einer Warteschlange stehende Anforderung die folgenden Schritte durchgeführt werden: 55

Bestimmen eines Verfügbarkeitsstatus des

Ziels der in der Warteschlange stehenden Anforderung, wobei der Verfügbarkeitsstatus angibt, ob das Ziel momentan für die Echtzeitkommunikation verfügbar ist; und

Bestimmen eines Verfügbarkeitsstatus des Anforderers der in der Warteschlange stehenden Anforderung, wobei der Verfügbarkeitsstatus angibt, ob der Anforderer momentan für die Echtzeitkommunikation verfügbar ist; und

Ergreifen (308) von Schritten, um das Eintreten der Echtzeitkommunikation zu bewirken, sobald der Anforderer und das Ziel der in der Warteschlange stehenden Anforderung gegenseitig verfügbar sind;

wobei das Verfahren **dadurch gekennzeichnet ist, daß:**

der Verfügbarkeitsstatus des Anforderers durch eine Überwachung einer Computernutzung zur Überprüfung, ob der Anforderer physisch in der Nähe des anfordernden Systems anwesend ist, bestimmt wird; und

der Verfügbarkeitsstatus des Ziels durch eine Überwachung einer Computernutzung zur Überprüfung, ob das Ziel physisch in der Nähe des Zielsystems anwesend ist, bestimmt wird.

2. Verfahren nach Anspruch 1, wobei das Zielsystem gepollt wird, um die Verfügbarkeit des Ziels zu bestimmen.
3. Verfahren nach Anspruch 1 oder 2, wobei das anfordernde System gepollt wird, um die Verfügbarkeit des Anforderers zu bestimmen.
4. Verfahren nach einem der vorhergehenden Ansprüche, wobei eine Mehrzahl von Anforderungen an eine Mehrzahl von Zielen gesandt wird und die gegenseitige Verfügbarkeit festgestellt wird, wenn der Anforderer und zumindest ein Ziel verfügbar sind. 35
5. Verfahren nach einem der vorhergehenden Ansprüche, umfassend:

Überprüfen der gehaltenen Anforderungen, um festzustellen, ob der Anforderer und das Ziel gegenseitig verfügbar sind.
6. Verfahren nach einem der vorhergehenden Ansprüche, wobei eine Anforderung mit der höchsten Priorität festgestellt wird (504) durch Sortieren eines oder mehrerer der folgenden Faktoren: wer wünschte den Anruf; Beziehung mit dem Ziel oder dem Anforderer; nutzerspezifizierte Prioritätsfaktoren; vergangene Zeit seit der Anforderung der Echtzeitkommunikation; Ablaufzeit für die Echtzeitkommunikationsanforderung; erwartete verbleibende Verfügbarkeitszeit; vorhergesagte Anrufdauer; frühere Historie; Schwierigkeit den Anforderer zu erreichen.

29

EP 1 127 444 B1

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7. Verfahren nach einem der vorhergehenden Ansprüche, welches umfaßt:

falls das Ziel physisch anwesend ist, Anzeigen
zumindest einer Anforderung, die einen Anforderer
identifiziert, der zuvor eine Echtzeitkommunikation
mit dem Ziel angefordert hat.

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8. Verfahren nach einem der vorhergehenden Ansprüche, wobei die Echtzeitkommunikation unter Verwendung eines Telefons geführt wird.

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9. Verfahren nach einem der Ansprüche 1-7, wobei die Echtzeitkommunikation unter Verwendung von Internettelefonie geführt wird.

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10. Verfahren nach einem der Ansprüche 1-7, wobei die Echtzeitkommunikation als ein persönliches Treffen spezifiziert ist.

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11. Verfahren nach einem der vorhergehenden Ansprüche, wobei eine Bestimmung, ob das Ziel oder der Anforderer physisch anwesend ist, durchgeführt wird, indem eine oder mehrere der Metriken einer Computernutzung geprüft werden:

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letzte Aktivität an Computereingabevorrichtungen;
Computertastatur-/Mausbasierte Befehle;
und Touchtone-Befehle.

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12. Verfahren nach einem der vorhergehenden Ansprüche, welches des weiteren umfaßt:

dem Ziel ermöglichen, Anrufer einzustufen und
Anrufer basierend auf seinen eigenen zuvor zugeordneten
Einstufungen zu filtern.

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Revendications

1. Procédé mis en oeuvre par ordinateur pour la médiation intermédiaire de communications en temps réel entre un requérant et une cible communiquant l'un avec l'autre par l'intermédiaire d'un système requérant et d'un système cible, respectivement, ce procédé comprenant les étapes suivantes :

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recevoir (302) une requête d'un requérant, la requête indiquant que le requérant veut effectuer des communications en temps réel avec une cible ;

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déterminer un état de disponibilité de la cible, l'état de disponibilité indiquant si la cible est couramment disponible pour les communications en temps réel ; et

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mettre en file (304) la requête si la cible n'est pas disponible ;
dans lequel, pour chaque requête mise en file,

les étapes suivantes sont mises en oeuvre :

déterminer un état de disponibilité de la cible de la requête mise en file, l'état de disponibilité indiquant si la cible est présentement disponible pour les communications en temps réel ; et

déterminer un état de disponibilité du requérant de la requête mise en file, l'état de disponibilité indiquant si le requérant est présentement disponible pour les communications en temps réel ; et

prendre (308) des étapes propres à amener les communications en temps réel à prendre place dès que le requérant et la cible de la requête mise en file sont mutuellement disponibles;

ce procédé étant **caractérisé en ce que** :

l'état de disponibilité du requérant est déterminé au moyen d'un ordinateur de surveillance pour vérifier si le requérant est physiquement présent au voisinage du système requérant ; et

l'état de disponibilité de la cible est déterminé par un ordinateur de surveillance pour vérifier si la cible est physiquement présente au voisinage du système cible.

2. Procédé selon la revendication 1, dans lequel le système cible est interrogé pour déterminer la disponibilité de la cible.

3. Procédé selon la revendication 1 ou 2, dans lequel le système requérant est interrogé pour déterminer la disponibilité du requérant.

4. Procédé selon l'une quelconque des revendications précédentes, dans lequel une pluralité de requêtes est envoyée à une pluralité de cibles et la disponibilité mutuelle est déterminée quand le requérant et au moins une cible sont disponibles.

5. Procédé selon l'une quelconque des revendications précédentes, comprenant :

revoir les requêtes maintenues pour déterminer si le requérant et la cible sont mutuellement disponibles.

6. Procédé selon l'une quelconque des revendications précédentes, dans lequel une requête de plus haute priorité est déterminée (504) en triant un ou plusieurs des facteurs suivants :

qui a demandé l'appel; relation avec la cible ou le requérant ; facteur de priorité spécifié par

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EP 1 127 444 B1

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l'utilisateur ; temps écoulé depuis que les communications en temps réel ont été requises ; temps d'expiration de la requête de communications en temps réel ; temps restant attendu de disponibilité ; durée d'appel prévue ; histoire antérieure ; difficulté d'atteindre le requérant.

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7. Procédé selon l'une quelconque des revendications précédentes, incluant, si la cible est physiquement présente, d'afficher au moins une requête identifiant un requérant qui a précédemment requis des communications en temps réel avec la cible. 10
8. Procédé selon l'une quelconque des revendications précédentes, dans lequel les communications en temps réel sont effectuées en utilisant un téléphone. 15
9. Procédé selon l'une quelconque des revendications 1 à 7, dans lequel les communications en temps réel sont effectuées en utilisant un téléphone par Internet. 20
10. Procédé selon l'une quelconque des revendications 1 à 7, dans lequel les communications en temps réel sont spécifiés comme étant une réunion face à face. 25
11. Procédé selon l'une quelconque des revendications précédentes, dans lequel une détermination de ce que la cible ou le requérant est physiquement présents est réalisée en vérifiant une ou plusieurs des métriques d'utilisation d'ordinateur, d'activités restantes des dispositifs d'entrée de l'ordinateur, de commandes basées sur le clavier ou la souris de l'ordinateur, et de commandes de tonalité de touche. 30
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12. Procédé selon l'une quelconque des revendications précédentes, comprenant en outre :

permettre à la cible de classer les appelants et de filtrer les appelants en fonction de leur classification précédemment affectée. 40

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EP 1 127 444 B1

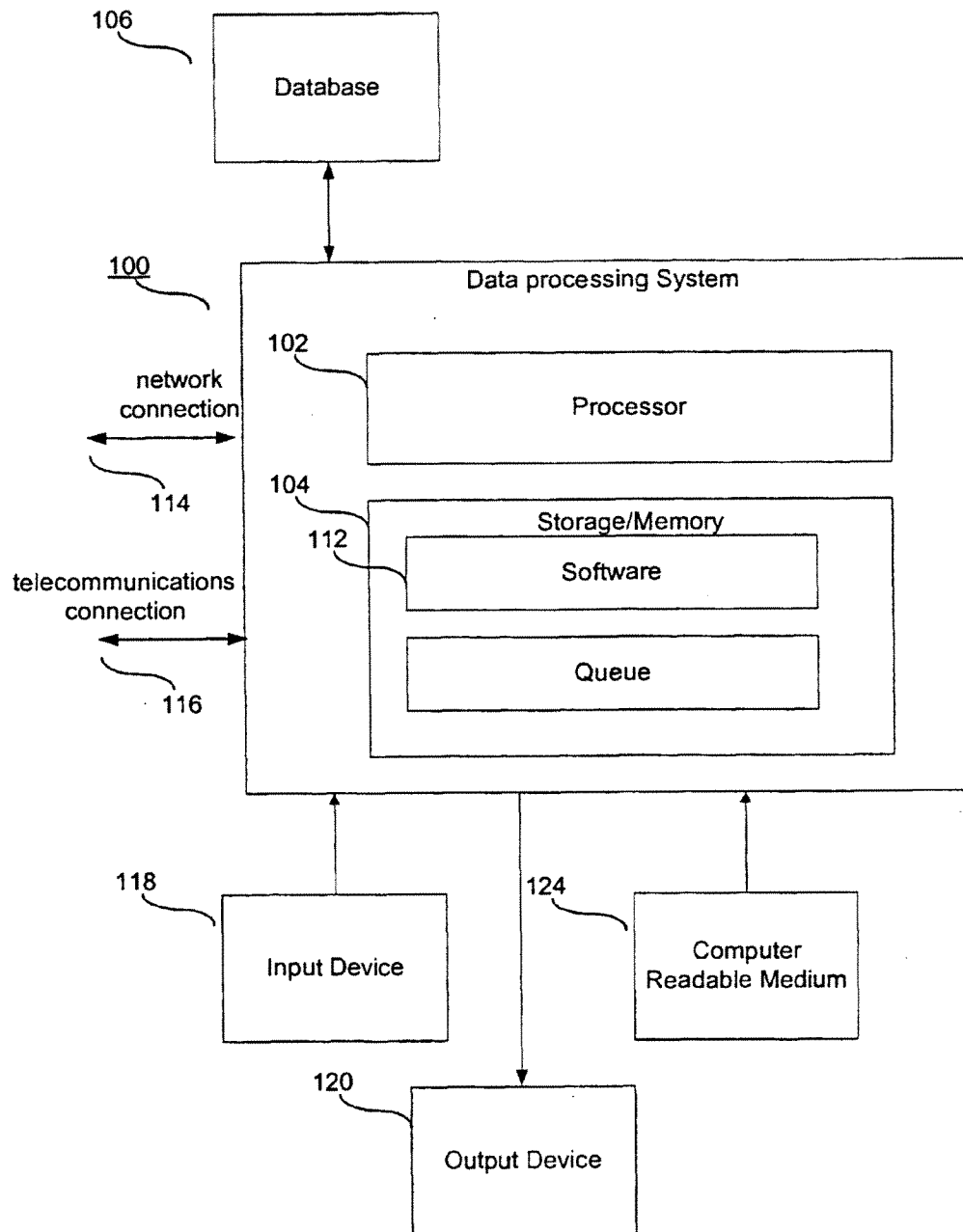


Fig. 1(a)

EP 1 127 444 B1

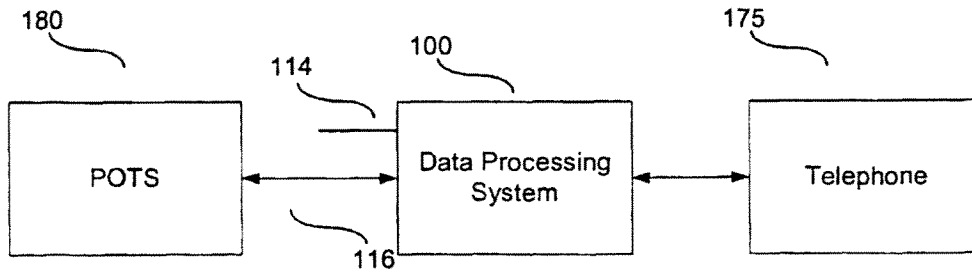


Fig. 1(b)

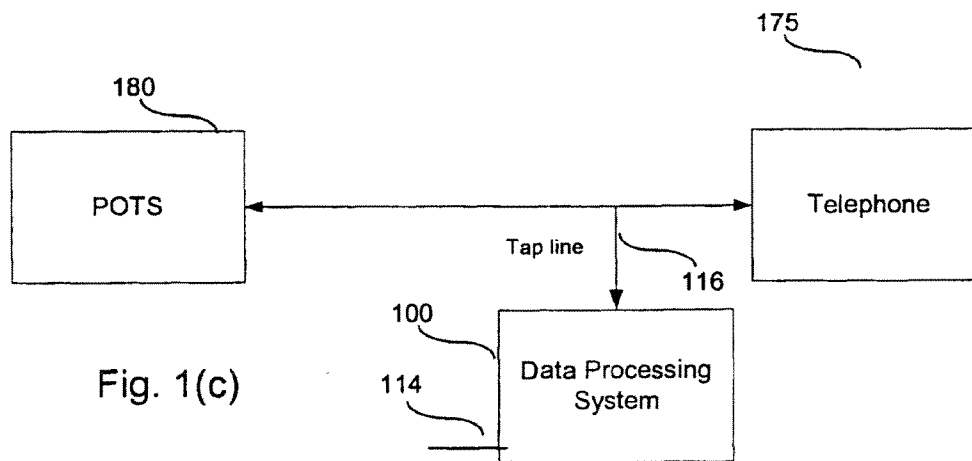


Fig. 1(c)

EP 1 127 444 B1

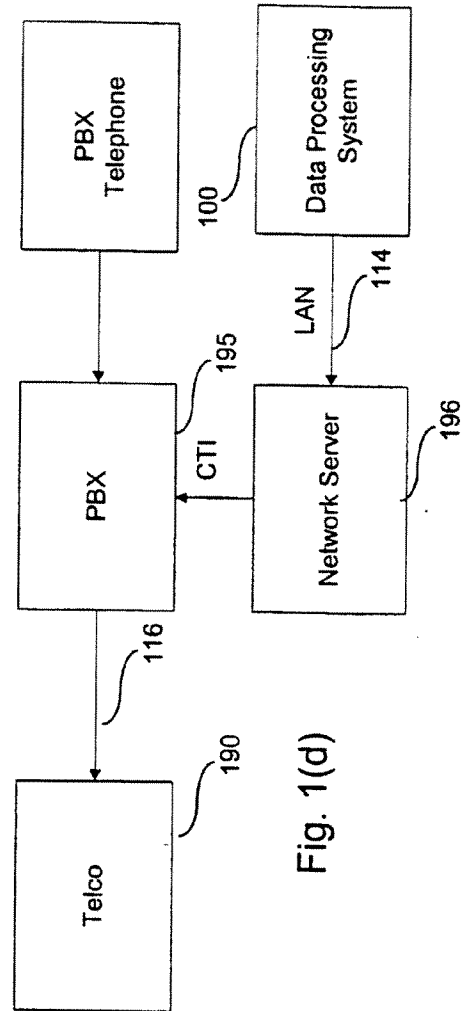


Fig. 1(d)

EP 1 127 444 B1

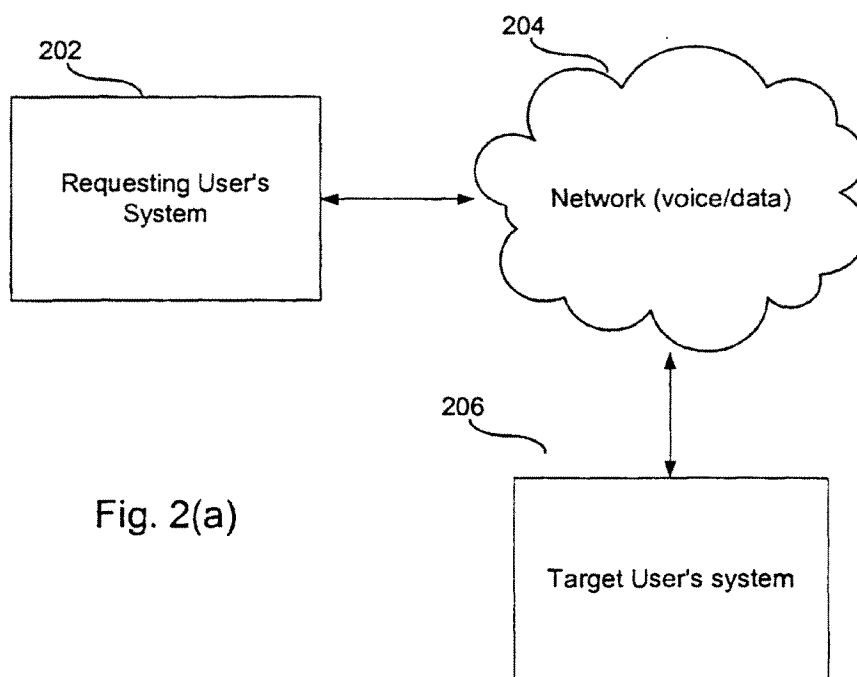


Fig. 2(a)

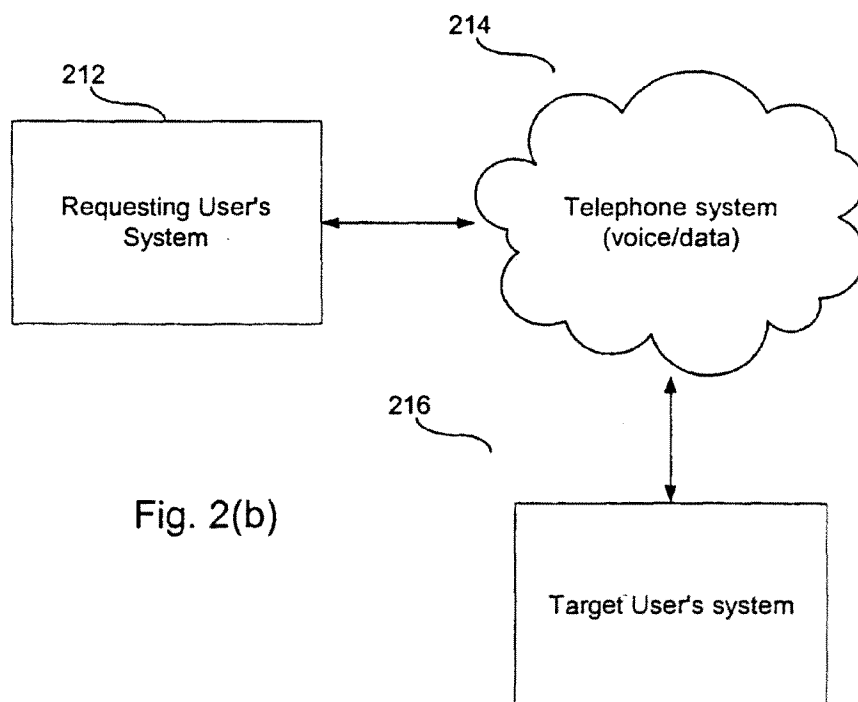


Fig. 2(b)

EP 1 127 444 B1

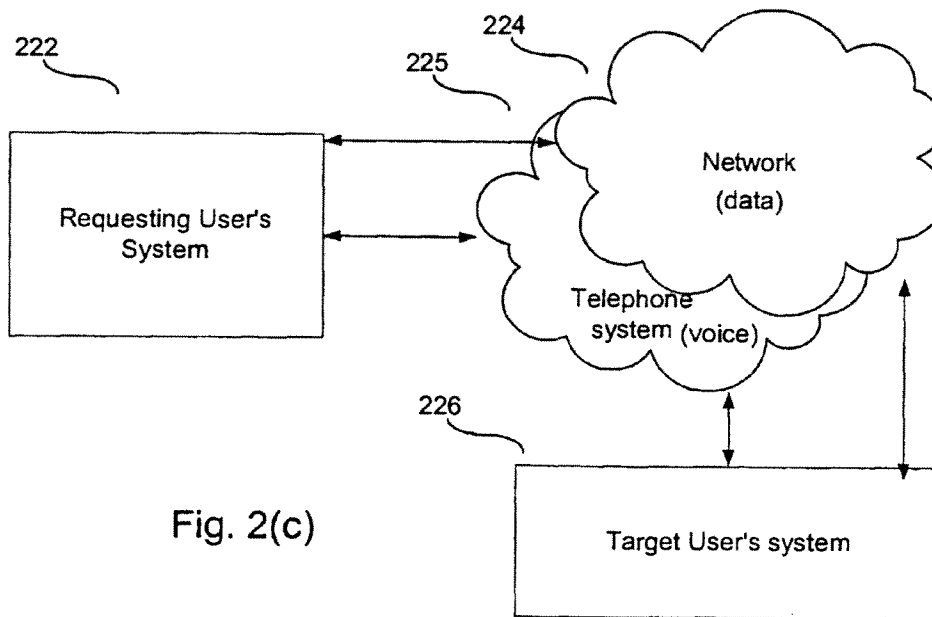


Fig. 2(c)

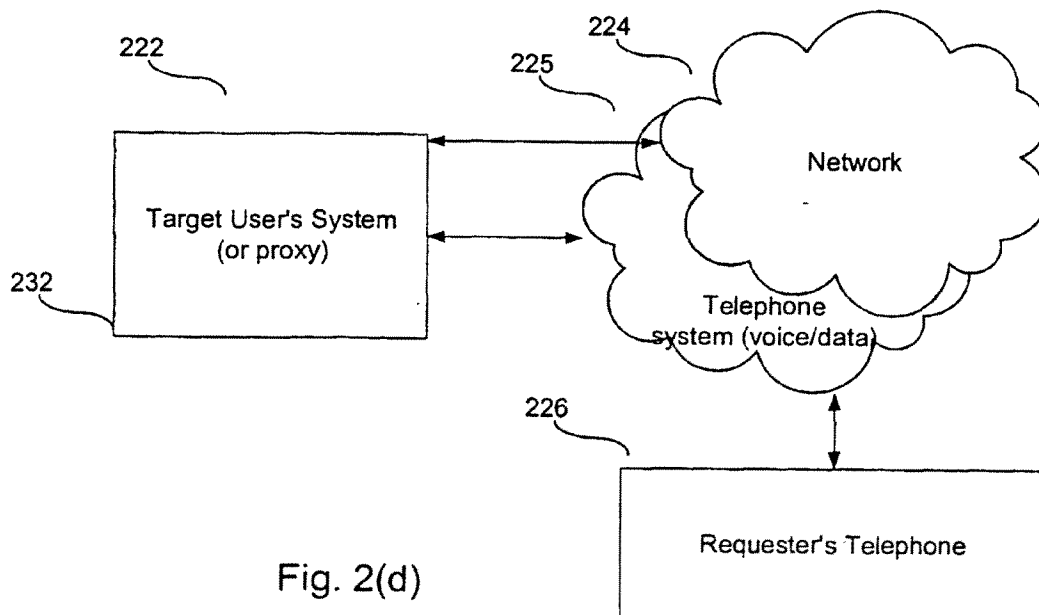
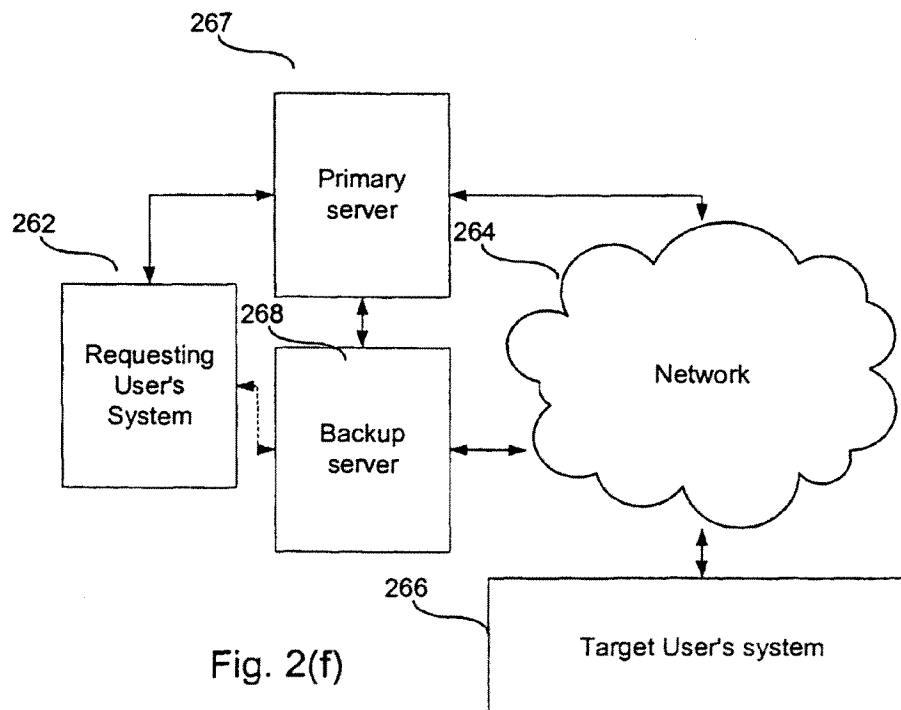
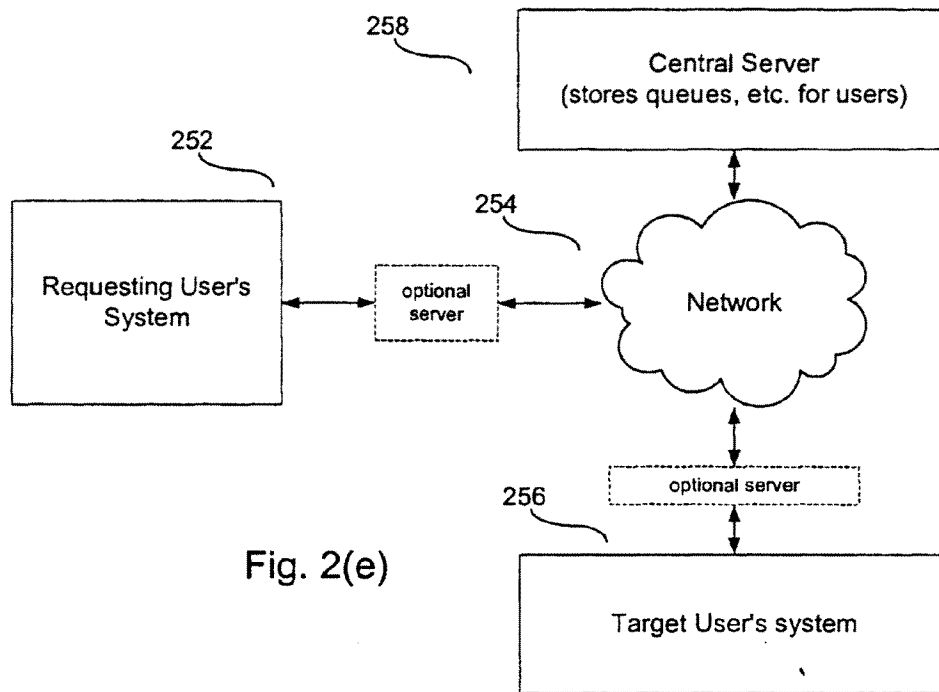


Fig. 2(d)

EP 1 127 444 B1



EP 1 127 444 B1

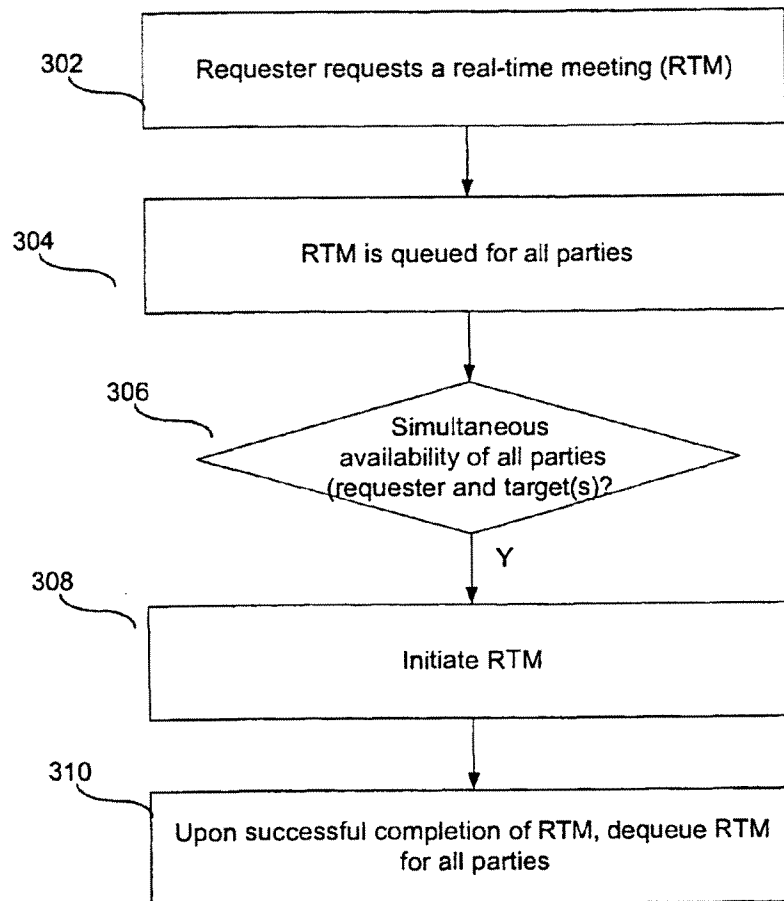
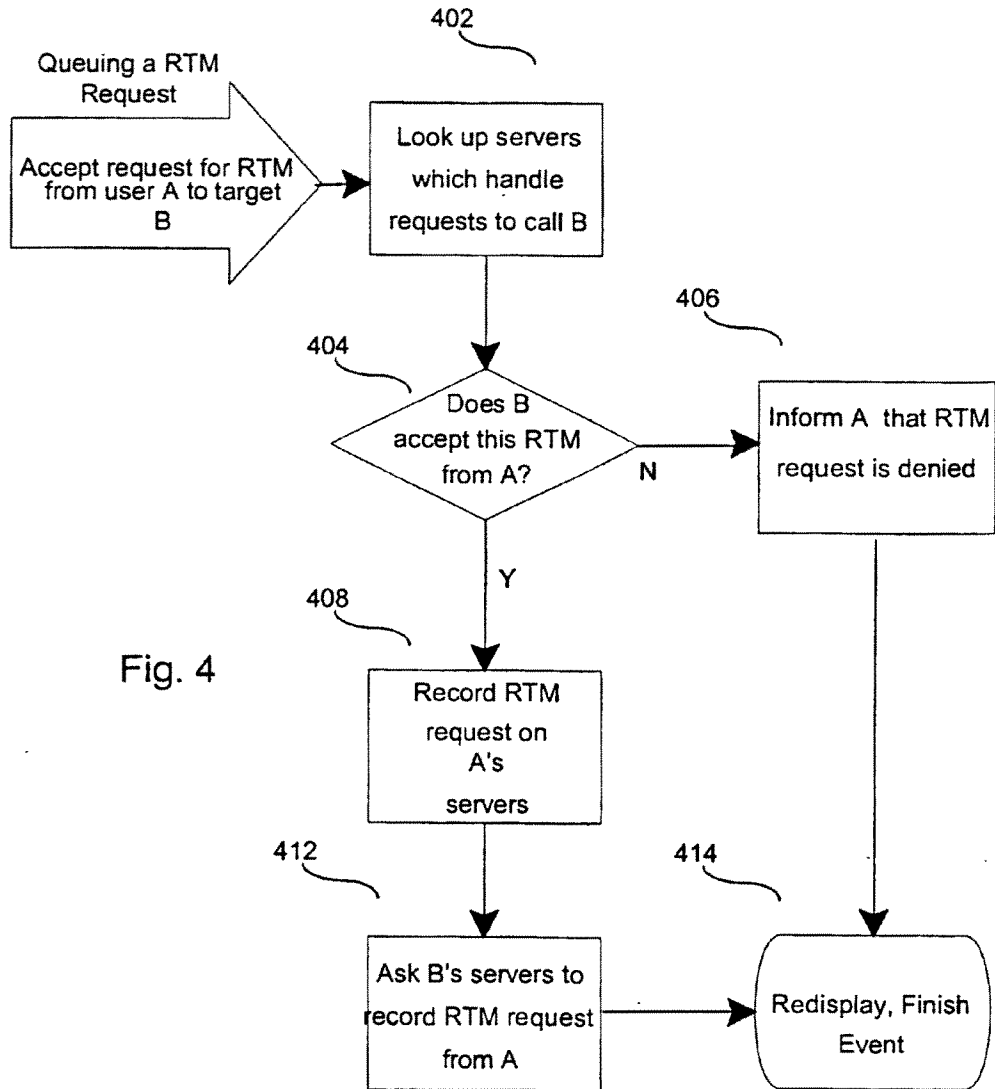
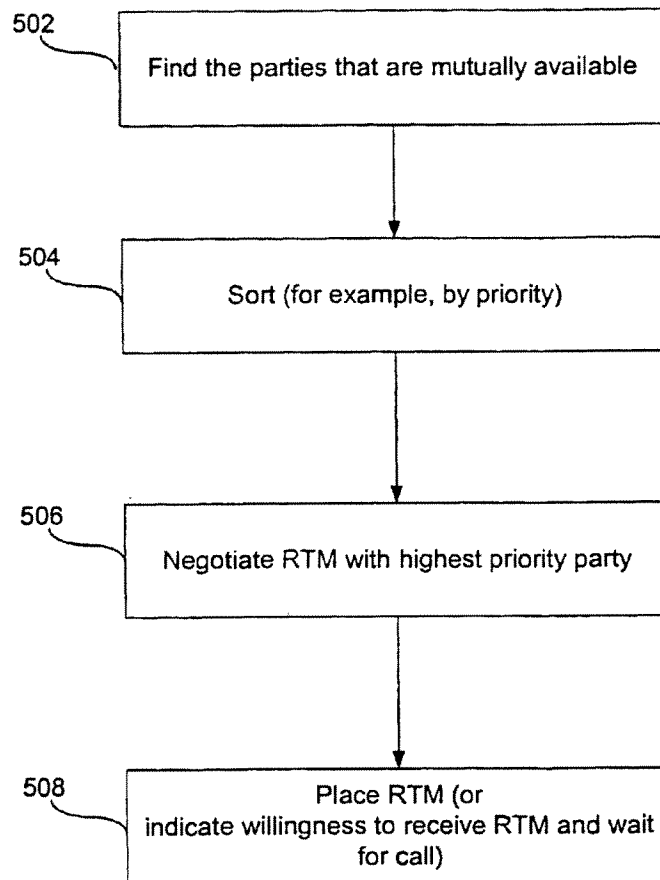


Fig. 3

EP 1 127 444 B1

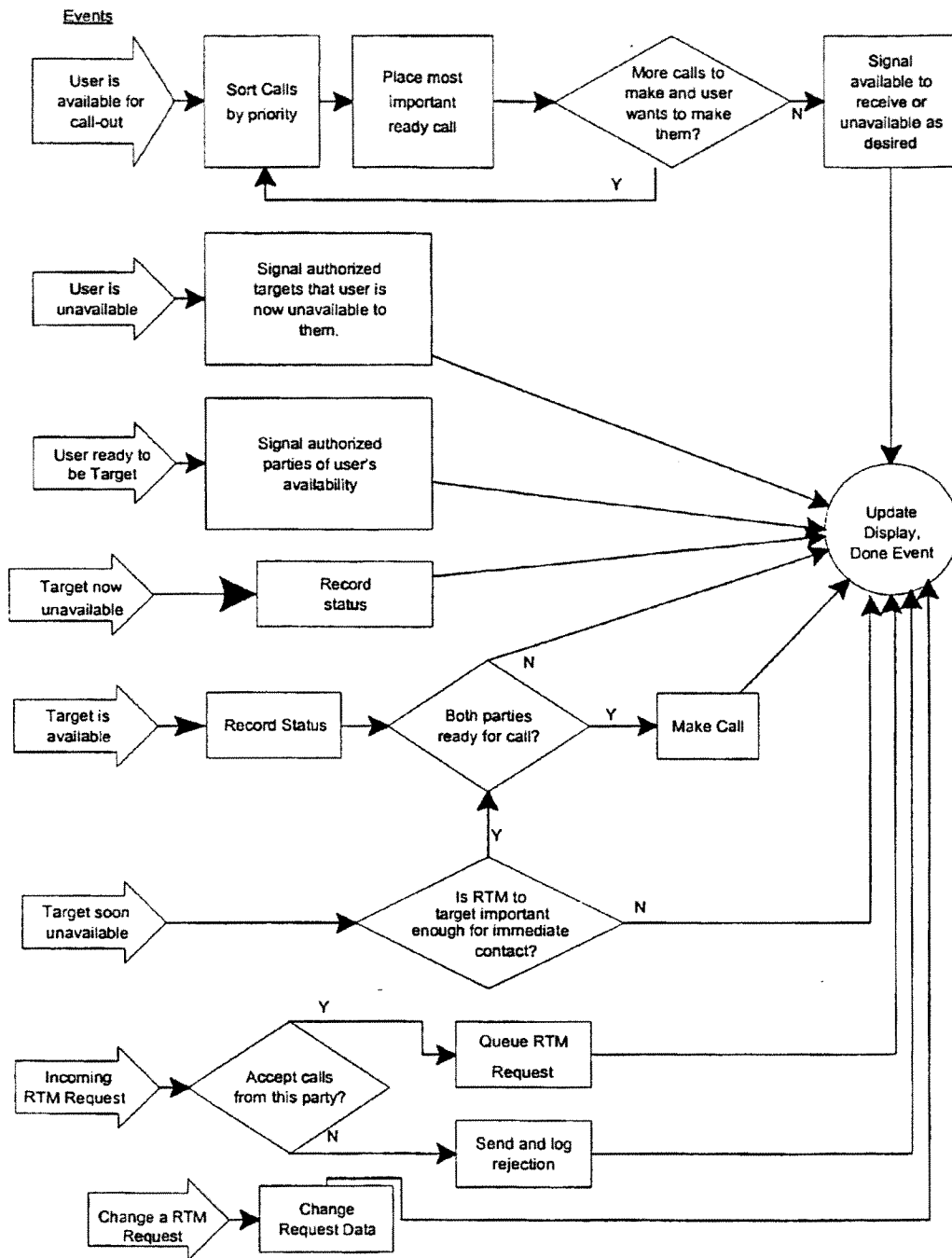


EP 1 127 444 B1

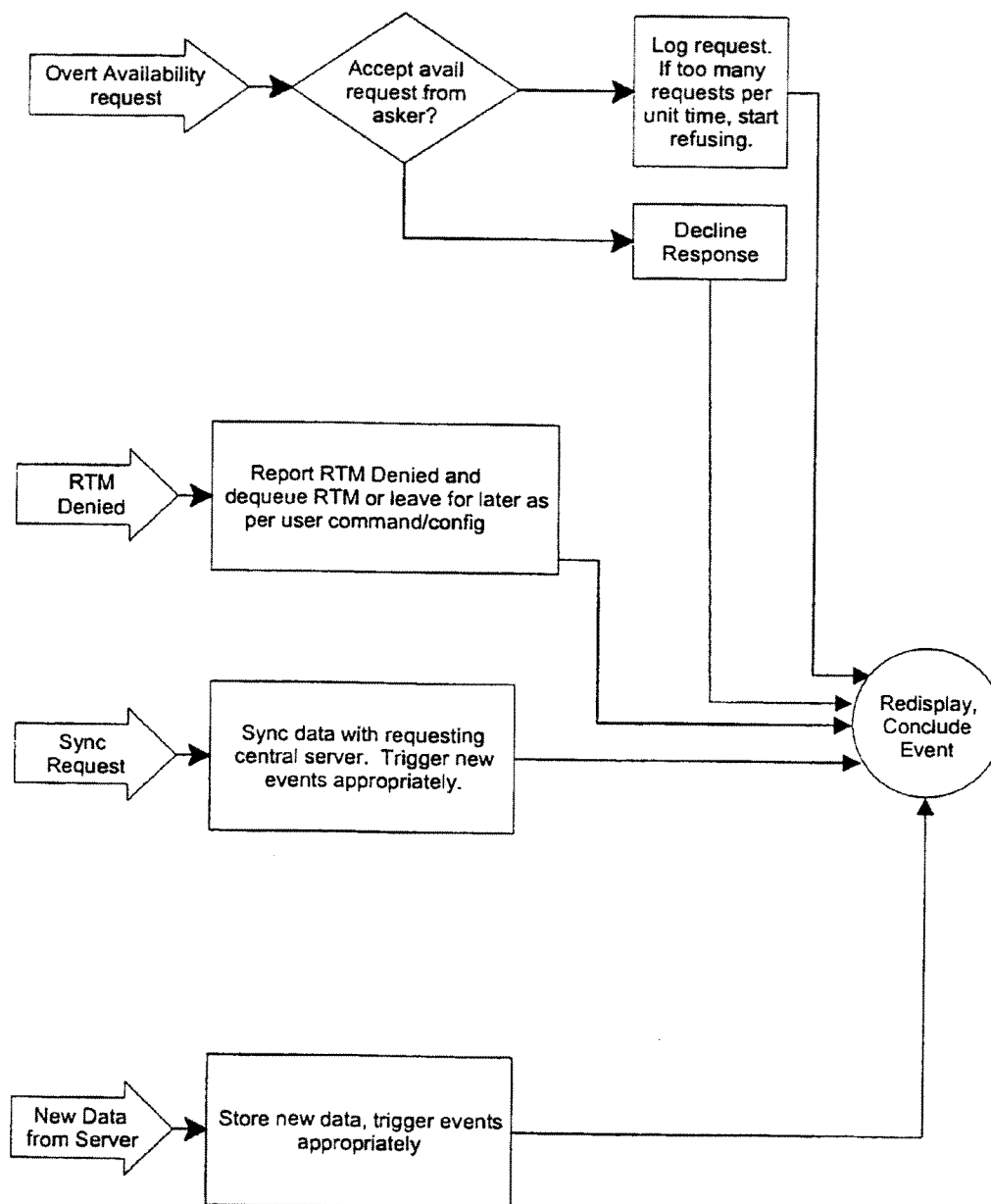


Check Queued RTM Requests
Fig. 5

EP 1 127 444 B1

Events processed from main loop
Fig. 6

EP 1 127 444 B1



Events Processed from Main Loop
Fig. 7

EP 1 127 444 B1

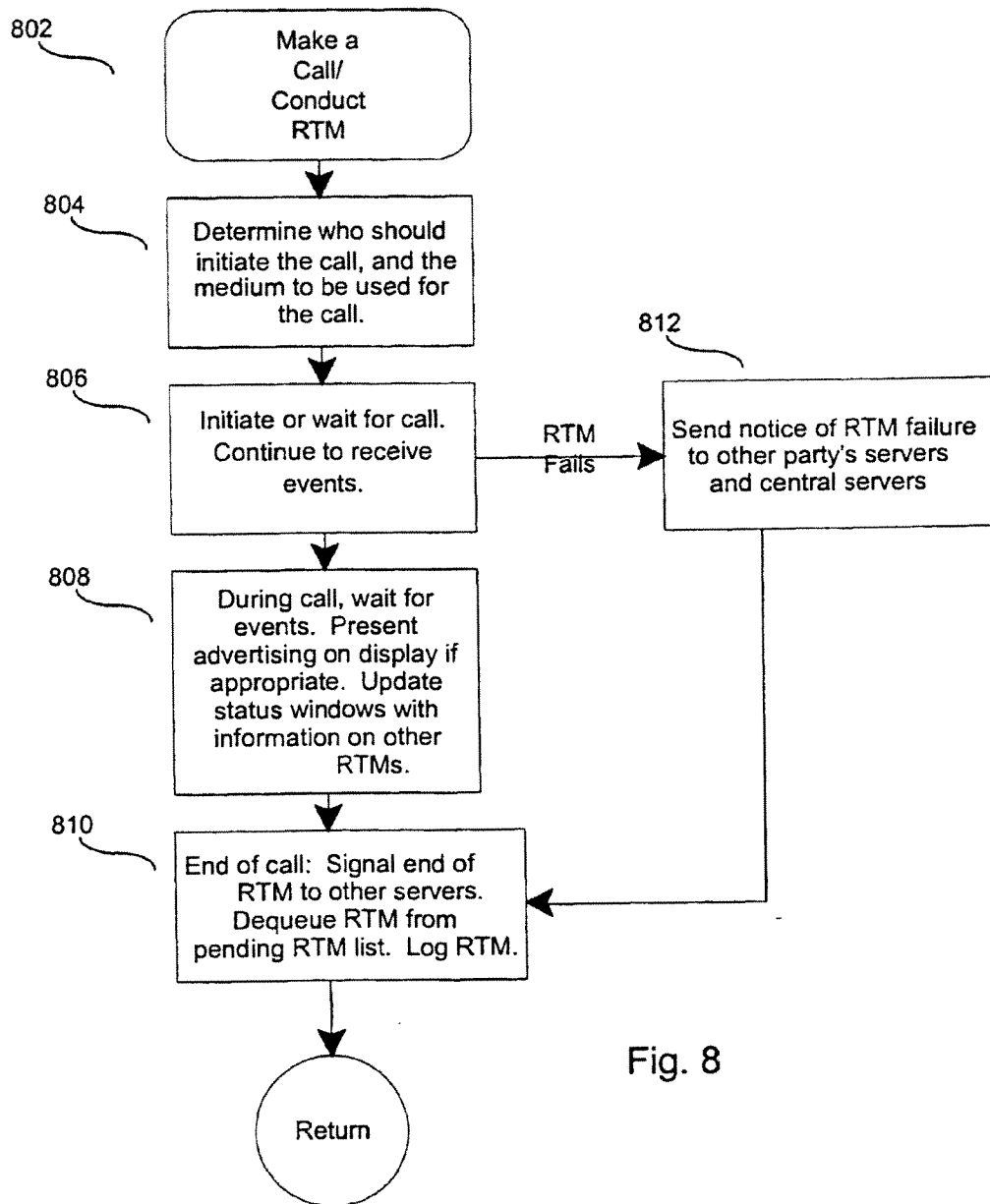
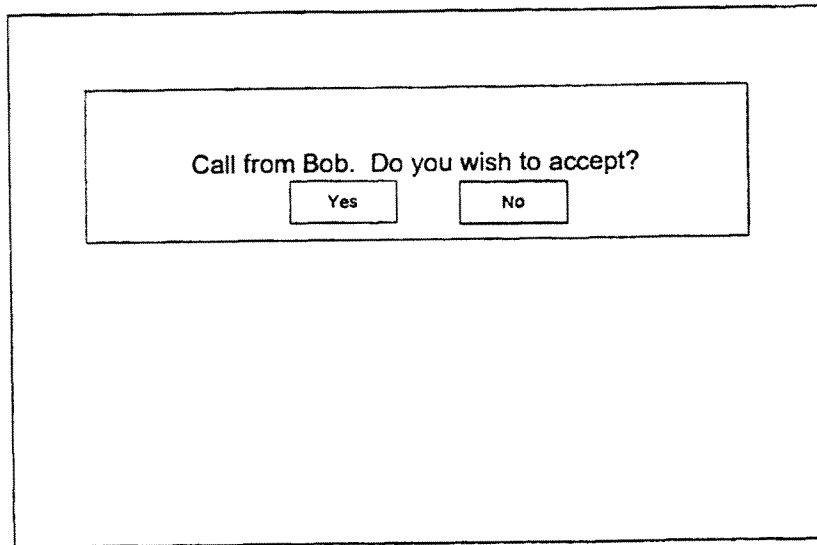


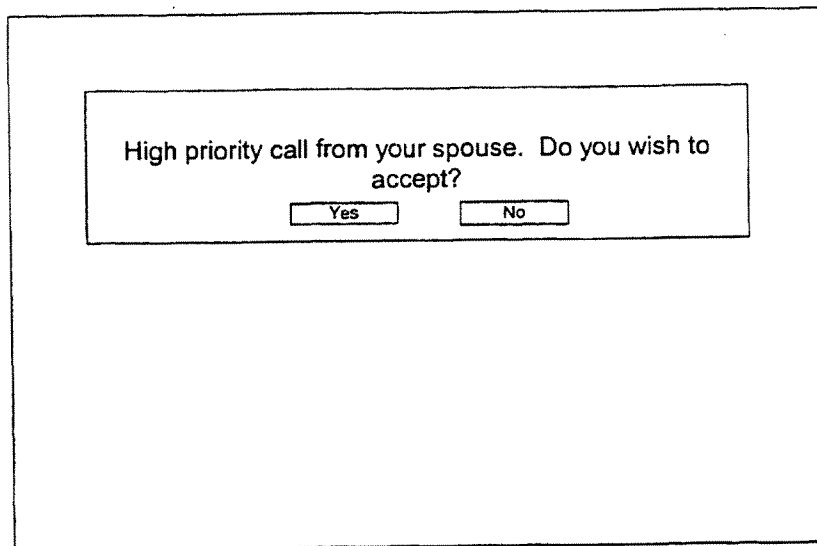
Fig. 8

EP 1 127 444 B1



Call from Bob. Do you wish to accept?

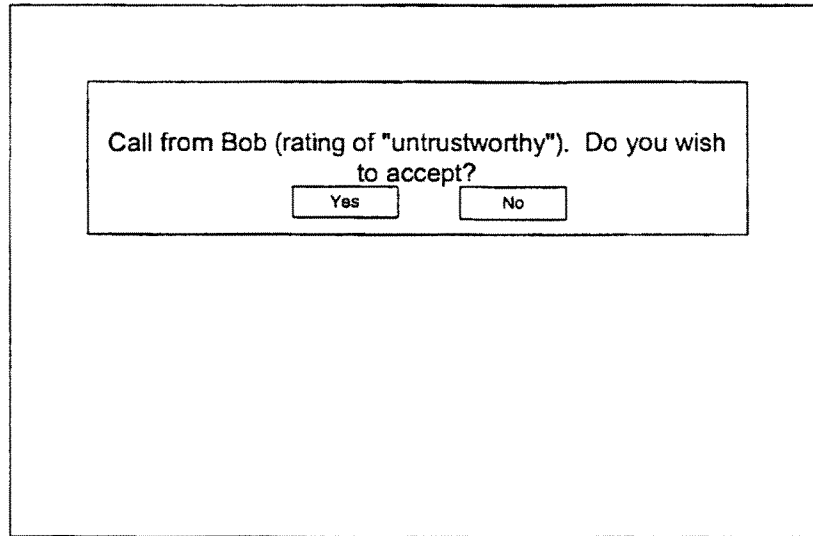
Target User's System
Fig. 9(a)



High priority call from your spouse. Do you wish to accept?

Target User's System
Fig. 9(b)

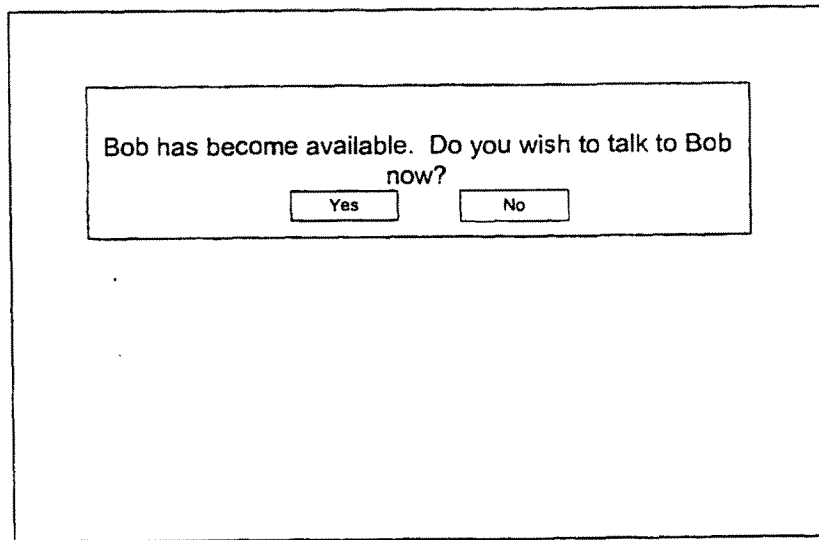
EP 1 127 444 B1



Call from Bob (rating of "untrustworthy"). Do you wish to accept?

Target User's System
Fig. 9(c)

EP 1 127 444 B1



Calling User's System
Fig. 9(d)

EP 1 127 444 B1

PhoneMeet Status: At Desk, ? hold all calls					
Status	Age	Caller	Pri	Reason	Info
In	1 hour	John Chang		Order	
Out	4 hours	Alice Jones		Budget Chat	
Unk	8 hours	Harold Jenkins		Referred by J. Birch	
Out	1 day	Bob Smith	U	Hiring Crisis	
In	2 days	Snidley Whip	!	Hot stock tip	Telemarketer(93%)
Blue: You called Them Black: They called you					

Fig. 9(e)

Welcome back. 5 calls are pending, 2 by you, 2 available, 2 out, 1 unknown. Do you wish to:	
	<input checked="" type="checkbox"/> Become available, taking the top pending call [XXX call description XXX] <input type="checkbox"/> Remain unavailable <input type="checkbox"/> Remain unavailable but examine call list to make call-by-call decisions

Fig. 9(f)

EP 1 127 444 B1

Running Advertisement		Picture of Caller
Caller/ You called:	John Chang	<input type="checkbox"/> End Call (& take next call)
Duration	12:04 minutes	<input type="checkbox"/> Change Class (select bar)
Local Time	4:32pm EST	<input type="checkbox"/> End call & hold calls
Remote	1:32pm PST	<input type="checkbox"/> Rate the caller (select bar)
Last Call	Jan 15, 1999	<input type="checkbox"/> Change call type
Total Calls	12	<input type="checkbox"/> Configure special parameters
First Call	May 19, 1998	<input type="checkbox"/> General customization
Reason	Chat about Fred	Phone controls (if CTI), ie. transfer call, etc.
Other information from local databases on the caller. Ie. "John Chang is V.P., Marketing for consumer division." etc.		Box for entry of notes on caller
		Box for billing information
		Click to go to caller's web page
Here would be the status window (specified in Fig. 9(f)) for pending calls		

Fig. 9(g)

EP 1 127 444 B1

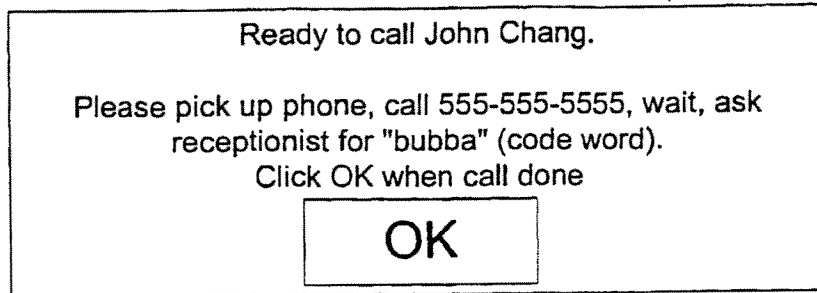


Fig. 9(h)

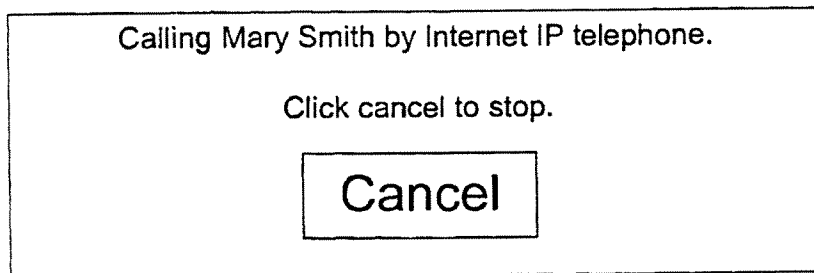


Fig. 9(i)

EP 1 127 444 B1**REFERENCES CITED IN THE DESCRIPTION**

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 10425598 P, Bradley S. [0001]
- WO 9821870 A [0005]
- EP 0557777 A [0006]

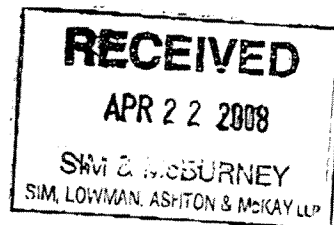


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April 14, 2008

SIM & MCBURNEY
6th Floor
330 University Avenue
TORONTO Ontario
M5G 1R7



Application No. : **2,352,165**
Owner : TEMPLETON, BRADLEY S.
Title : **METHOD AND APPARATUS FOR INTERMEDIATION OF MEETINGS AND CALLS**
Classification : H04M 3/42 (2006.01)
Your File No. : **106-483**
Examiner : Mara Gravelle

YOU ARE HEREBY NOTIFIED OF A REQUISITION BY THE EXAMINER IN ACCORDANCE WITH SUBSECTION 30(2) OF THE *PATENT RULES*. IN ORDER TO AVOID ABANDONMENT UNDER PARAGRAPH 73(1)(A) OF THE *PATENT ACT*, A WRITTEN REPLY MUST BE RECEIVED WITHIN **6** MONTHS AFTER THE ABOVE DATE.

This application has been examined taking into account applicant's correspondence received in this office on June 18, 2007 and October 3, 2007.

The number of claims in this application is 73.

The examiner has identified the following defects in the application:

Non-Statutory Subject Matter

Claims 57 and 73 are directed to non-statutory subject matter, and are outside the definition of invention in section 2 of the Patent Act. The aforementioned claims are directed towards a "program". A computer program product is not a programmed computer. An acceptable computer product claim would define a computer readable memory for storing programmable instructions for use in the execution in a computer of the method of the invention disclosed in the instant application.

Unity

The application does not comply with subsection 36(1) of the Patent Act. The claims are directed to a plurality of alleged inventions as follows:

2,352,165

- 2 -

Group A - Claim 1 with dependant claims 3-27 and 73 are directed to a method that involves a decider system for queuing and availability status;

Group B - Claim 2 with dependant claims 3-27 and 73 are directed to a method without any specified systems, but a requester system for queuing;

Group C - Claim 28 with dependant claims 30-42 and 73 are directed to a method for transmitting or receiving with no queueing;

Group D - Claim 29 with dependant claims 30-42 and 73 are directed to a method to only receive requests with no queuing;

Group E - Claims 43-56 are directed to system involving multiple requester systems and servers as well as a deciding agent;

Group F - Claim 57 is directed to program code that is capable of receiving requests, queueing, receiving availability and determining mutual availability;

Group G - Claims 58-64 are directed to a user interface to display a requester ID and availability; and

Group H - Claims 65-72 are directed to a user interface to display multiple IDs and availabilities.

According to subsection 36(2) of the Patent Act, after limiting the claims of the present application to one invention only, the applicant may make any other invention disclosed the subject of a divisional application. The applicant is advised that once an election has been made, further prosecution of the present application will be limited to the invention so elected. For the purposes of the present report, the examiner has proceeded on the presumption that the applicant will elect the claims of Group A. This presumption does not affect applicant's right to elect, one time, a different invention for prosecution.

Note that, where an examiner decides, when the unity of invention problem is first identified, to nevertheless examine the claims of one unity group, the applicant is still entitled to elect a different group in response to the requisition.

In view of the above, a search of the prior art and examination have been limited to the subject matter in claim 1 with dependant claims 3-27 and 73.

A search of the prior art has thus far failed to reveal any pertinent references.

Indefiniteness

Claims 3-6, 12 and 19 are indefinite and do not comply with subsection 27(4) of the *Patent Act*. The use of "a system" (claim 3, line 1; claim 5, line 1), "the system" (claim 4, line 1; claim 6, line 1; claim 12, line 1-2) and "the three systems" (claim 19, line 1) cause ambiguity as it is not clear which system(s) are being referred to, as there is "a requester system" and "a decider system" in claim 1 and there is no third system. These also have antecedent issues.

2,352,165

- 3 -

Claim 8 is indefinite and does not comply with subsection 27(4) of the *Patent Act*. The second introduction (use of an indefinite article) of an element already introduced causes ambiguity. The term "a request" (claim 8, line 1) has been defined previously in the claims. The aforementioned term should therefore be referred to using a definite article. There are two requests already introduced in claim 1.

Claim 9 is indefinite and does not comply with subsection 27(4) of the *Patent Act*. The second introduction (use of an indefinite article) of an element already introduced causes ambiguity. The term "an availability status of the target T-A" (claim 9, line 1) has been defined previously in the claims. The aforementioned term should therefore be referred to using a definite article. There are two requests already introduced in claim 1.

Claims 4 and 6 are indefinite and do not comply with subsection 27(4) of the *Patent Act*. Claims containing a negative expression such as "without being polled" is objectionable in that claims should generally set forth what the invention is or does, and not what it is not or does not do.

Claim 1, line 9 appears to contain a spelling error. It reads "availability statues", it appears that this should read "availability status".

Description and Drawings

The figures and the description do not comply with section 82 of the *Patent Rules*. Reference characters not mentioned in the description must not appear in the drawings, and vice versa. Reference characters 236 (pg. 6, line 30), 234 (pg. 6, line 31), 242 (pg. 7, line 2), 246 (pg. 7, line 3), 244 (pg. 7, line 3) appear in the description but not in the drawings. Reference characters 180 and 175 (Fig. 1(b) and Fig 1(c)); 190, 195, 196 (Fig. 1(d)); 252, 254, 256, 258 (Fig. 2(d)); 302, 308 (Fig. 3); 402, 404, 412, 414 (Fig. 4); 802, 810 (Fig. 8); appear in the drawings but not in the description.

The drawings must be amended to comply with section 82 of the *Patent Rules*. The same reference character must be used for the same part in different figures, and must not be used to designate different parts. Reference character 304 on pg. 7, line 16 of the description appears to be a typo and should instead read 302.

The drawings must be amended to comply with section 37(2) of the *Patent Act*. The drawings must show clearly all parts of the invention and identify all parts by reference characters. Further, the description must include a written description of the drawings using the reference characters. Figures 6, 7, and 9(a-c) do not comply.

2,352,165

- 4 -

In view of the foregoing defects, the applicant is requisitioned, under subsection 30(2) of the *Patent Rules*, to amend the application in order to comply with the *Patent Act* and the *Patent Rules* or to provide arguments as to why the application does comply.

Mara Gravelle
Patent Examiner
819-934-4893
2352165A.meg

(11) Related Proceedings Appendix

NONE